

RG-S3250

RGOS 10.2(4)

©2009



RGOS®

RGNOS®



锐捷®

RGOS®10.2(4)

-
-
-

1.

5

Courier New

5

2.

Arial

[] []

{x|y|...}

[x|y|...]

//

/02D60A5(3.70.257 GTc 28 0 T M0wP

CLI

alias

alias

no

alias *mode command-alias original-command*
no alias *mode [original-command]*

mode
command-alias

aaa-gs	AAA server group mode
acl	acl configure mode
bgp	Configure bgp Protocol
config	globle configure mode

*

**command-alias=original-command*

EXEC	"s"	"show"	"s?"
's'			

Ruijie# **s?****s=show show start-chat start-terminal-service*

EXEC	"sv"	"show version"
------	------	----------------

Ruijie# **s?****s=show *sv="show version" show start-chat
start-terminal-service*Ruijie# **s?***show start-chat start-terminal-service*

"ia"	"ip address"
------	--------------

Ruijie(config-if)# **ia ?***A.B.C.D IP address**dhcp IP Address via DHCP*Ruijie(config-if)# **ip address***"ip address"***show aliases***"def-route"**"ip route 0.0.0.0 0.0.0.0 192.168.1.1"*Ruijie# **configure terminal**Ruijie(config)# **alias config** *def-route ip route 0.0.0.0
0.0.0.0 192.168.1.1*Ruijie(config)# **def-route?****def-route="ip route 0.0.0.0 0.0.0.0 192.168.1.1"*

```
Ruijie(config)# def-route?  
% Unrecognized command.  
Ruijie(config)# end  
Ruijie# show aliases config  
globe configure mode alias:  
def-route          ip route 0.0.0.0 0.0.0.0 192.168.1.1
```



exec	
interface	
ip-dhcp-pool	DHCP
keychain	KeyChain
keychain-key	KeyChain-key
time-range	Time-Range

CLI 1 "test" reload

Ruijie(config)# **enable secret level 1 0 test**

Ruijie(config)# **privilege exec level 1 reload**

1 CLI reload

Ruijie> **reload ?**

mode

EXEC

EXEC

Ruijie# **show aliases exec**

exec mode alias:

h	help
p	ping
s	show
u	undebug
un	undebug

alias	

CLI

- **disable**
- **enable**
- **enable password**
- **enable secret**
- **password**
- **login**
- **login local**
- **login authentication**
- **username**
- **lock**
- **lockable**
- **telnet**
- **enable service**
- **ip http authentication**
- **ip http port**

disable

disable

disable [*privilege-level*]

privilege-level



disable

Ruijie# **disable 10**

enable	

enable

enable

enable password

enable password

no

enable password [*level level*] {*password* | [**0** | **7**] *encrypted-password*}

no enable password

Password

EXEC

Level

0|7

0

7

encrypted-password

- 1 26
-

EXEC

pw10

Ruijie(config)# **enable password** *pw10*

enable secret	

enable secret

enable secret

no

enable secret [*level level*] {*secret* | [**0** | **5**] *encrypted-secret*}

no enable secret

<i>Secret</i>	EXEC
<i>Level</i>	
0 5	0 5
<i>encrypted-password</i>	

```

password security password
15 security 0 15
password
15 password
security 15 password security
password
security

```

```

pw10
Ruijie(config)# enable secret 0 pw10

```

enable password	

password

```

line line password
no line
password {password | [0|7] encrypted-password}
no password

```

```

password line
0|7 0 7
encrypted-password

```

```

line

```

```

line

```

```

line red
Ruijie(config)# line vty 0
Ruijie(config-line)# password red

```

login	

login

```
AAA
    login      no
login
no login
```

line

```
AAA
    VTY  console

VTY
Ruijie(config)# no aaa new-model
Ruijie(config)# line vty 0
Ruijie(config-line)# password 0 normatest
Ruijie(config-line)# login
```

password	line

login local

```
AAA
    login local      no
login local
```

no login local

line

AAA

username

VTY

```
Ruijie(config)# no aaa new-model
Ruijie(config)# username test password 0 test
Ruijie(config)# line vty 0
Ruijie(config-line)# login local
```

username	

login authentication

AAA

AAA

no

login authentication {default | list-name}

no login authentication {default | list-name}

default

list-name

line

AAA

15

Ruijie(config)# **username test privilege 15 password 0**
pw15

login local	

lock

EXEC

lock

lock

1. **lock**

2.

“ Locked ”

3.

line

lockable

line

Ruijie(config-line)# **lockable**

Ruijie(config-line)# **end**

Ruijie# **lock**

Password: <password>

Again: <password>

Locked

Password: <password>

lockable	

lockable

lock lock line no lockable

lockable

no lockable

line

EXEC lock

```
Ruijie(config)# line console 0
Ruijie(config-line)# lockable
Ruijie(config-line)# end
Ruijie# lock
Password: <password>
Again: <password>
Locked
Password: <password>
Ruijie#
```

lock	

telnet

	telnet	EXEC
telnet		
telnet <i>host</i> [<i>port</i>] [<i>keyword</i>]		
<i>Host</i>	IP	

Web

no ip http authentication

ip http authentication local,

Web

local

Ruijie(Config # **ip http authentication local**

enable service	

ip http port

HTTP

ip http port

ip http port *number*

number

HTTP Server

80

HTTP

no ip http port

HTTP

8080

Ruijie(Config # **ip http port 8080**

enable service	

-
- clock set
 - clock update-calendar
 - exec-timeout
 - hostname
 - session-timeout
 - show clock
 - show cpu
 - show cpu slot
 - show memory
 - show memory slot
 - show running-config
 - show startup-config
 - reload
 - show reload
 - prompt
 - banner motd
 - banner login
 - speed
 - show line
 - write

clock set

clock set

clock set *hh:mm:ss month day year*

<i>hh:mm:ss</i>	24	:	:
<i>day</i>	1-31		
<i>month</i>	1-12		
<i>year</i>	1993-2035		

clock set

2008 1 30 05 54 43

Ruijie# **clock set 05:54:43 1 30 2008**

Ruijie# **show clock**

05:54:43 CHN-BJ Wed 2008-01-30

show clock	

clock update-calendar

clock clock privileged EXEC clock
update-calendar clock clock
clock update-calendar

calendar

clock clock
Ruijie# **clock update-calendar**

exec-timeout

LINE	exec-timeout
no exec-timeout	LINE
exec-timeout <i>minutes [seconds]</i>	
no exec-timeout	
<i>minutes</i>	
<i>seconds</i>	
	10 min
LINE	
LINE	
line vty 0	5 30 :
Ruijie(config-line)# exec-timeout 5 30	

hostname

hostname
hostname <i>name</i>
<i>name</i>
63
Ruijie
CHAP

BeiJingAgenda

Ruijie(config)# **hostname** *BeiJingAgenda*
BeiJingAgenda(config)#

session-timeout

LINE
session-timeout **no session-timeout** LINE

session-timeout *minutes [seconds]*
no session-timeout

minutes
seconds

0 min

LINE

LINE

LINE

line vty 0 5 30 :

Ruijie(config-line)# **exec-timeout** 5 30

show clock

show clock

show clock [detail]

detail

detail

show clock

Ruijie# **show clock detail**
05:54:43 CHN-BJ Wed 2008-01-30
Clock read from calendar when system boot.

clock set	

show cpu

CPU

show cpu

CPU

show cpu

Ruijie# **show cpu**
CPU utilization in five seconds: 0%
CPU utilization in one minute : 35%
CPU utilization in five minutes: 33%
NO 5Sec 1Min 5Min Process
0 0% 0% 0% LISR INT
1 0% 0% 0% HISR INT
2 0% 0% 0% ktimer
3 0% 0% 0% atimer
4 0% 0% 0% printk_task

5	0%	0%	0%	waitqueue_process
6	0%	0%	0%	tasklet_task
7	0%	0%	0%	kevents
8	0%	0%	0%	snmpd
9	0%	0%	0%	snmp_trapd
10	0%	0%	0%	mtdblock
11	0%	35%	33%	gc_task
12	0%	0%	0%	Context
13	0%	0%	0%	kswapd
14	0%	0%	0%	bdflush
15	0%	0%	0%	kupdate
16	0%	0%	0%	bufcopy
17	0%	0%	0%	ll_mt
18	0%	0%	0%	ll main process
19	0%	0%	0%	ISDN MAIN
20	0%	0%	0%	tnet
21	0%	0%	0%	Tarptime
22	0%	0%	0%	gra_arp
23	0%	0%	0%	Ttcptimer
24	0%	0%	0%	gk process
25	0%	0%	0%	rl_con
26	100%	65%	67%	idle

show cpu

CPU utilization in five seconds	5 CPU
CPU utilization in one minute	1 CPU
CPU utilization in five minutes	5 CPU
NO	
Process	
5Sec	5 CPU
1Min	1 CPU
5Min	5 CPU

--	--

show cpu slot

CPU

show cpu slot [*slot-number*]

slot-number

CPU

✂

φ

PU

Ů

show memory

Ruijie# **show memory**

Physical Memory: 256M total

Image: 78M

Application Memory: 178M (57M used 121M available)

Utilization: 52.7%

show memory

Physical Memory	
Image	
Application Memory	usedavailable available
Utilization	

show memory slot	

show memory slot

show memory slot [*slot-number*]

slot-number

1 1
Ruijie# **show memory slot 1**
Physical Memory: 256M total
Image: 45M
Application Memory: 211M (55M used 156M available)
Utilization: 39.1%

2
ruijie# **show memory slot**
slot 1 memory information
Physical Memory: 256M total
Image: 45M
Application Memory: 211M (55M used 156M available)
Utilization: 39.1%
slot 3 memory information
Physical Memory: 256M total
Image: 45M
Application Memory: 211M (57M used 154M available)
Utilization: 39.8%

show memory	

show running-config

running-config show
show running-config

show startup-config

NVRAM

show startup-config

show startup-config

NVRAM

startup-config

reload

reload

reload [*text* | **in** [*hh:*] *mm* [*text*] | **at** *hh:mm* [*month day* | *day month*]
[*text*] | **cancel**]

text 1-255

in [*hh:*] *mm* 24

at *hh:mm*

month 3 Mar

day 1 31

cancel

10

Ruijie# **reload in 10**

Router will reload in 600 seconds.

show reload

show

reload

show reload

```
Ruijie# show reload
Reload scheduled in 595 seconds.
At 2003-12-29 11:37:42
Reload reason: test.
```

prompt

prompt

no prompt

prompt *string*

string

32

EXEC

RGOS

```
Ruijie(config)# prompt RGOS
Ruijie(config)# end
```

RGOS

banner motd

banner motd

no banner motd

banner motd *c message c*

c

message

Ruijie(config)

Ruijie(config)# **banner motd** \$ *hello,world* \$

banner login

banner login

no banner login

banner login *c message c*

c

message

```
Ruijie(config)
Ruijie(config)# banner login $ enter your password $
```

speed

```
no speed
speed speed
```

```
Speed
9600 19200 38400 57600 115200
9600
```

9600

57600 bps

```
Ruijie(config)#
Ruijie(config)# line console 0
Ruijie(config-line)# speed 57600
Ruijie(config-line)#
```

show line

show line

```
show line [console line-num | aux line-num | vty line-num | line-num]
```

console

aux	aux
vty	vty
<i>line-num</i>	line

console

```
Ruijie# show line console 0
CON      Type      speed  Overruns
* 0      CON       9600   45927
Line 0, Location: "", Type: "vt100"
Length: 24 lines, Width: 79 columns
Special Chars: Escape Disconnect Activation
                ^^x      none      ^M
Timeouts:      Idle EXEC   Idle Session
                never      never
History is enabled, history size is 10.
Total input: 53564 bytes
Total output: 395756 bytes
Data overflow: 27697 bytes
stop rx interrupt: 0 times
```

write

write

write [*memory* | *network* | *terminal*]

<i>memory</i>	running-config	NVRAM	copy
running-config startup-config			
<i>network</i>	TFTP		copy
running-config tftp			
<i>terminal</i>	show running-config		

memory

```
Ruijie# write
Building configuration...
[OK]
```

show running-config	
copy	

LINE

LINE

line

LINE

line [**aux** | **console** | **tty** | **vty**] *first-line* [*last-line*]

First-line first-line

Last-line last-line

LINE

LINE VTY 1 3 LINE

Ruijie(config)# **line vty** 1 3

line vty

VTY

no

VTY

line vty *line-number*

no line vty *line-number*

VTY 5 0--4

VTY

VTY 20 VTY 0--19

Ruijie(config)# **line vty 19**

VTY 10 VTY 0—9

Ruijie(config)# **line vty 10**

transport input

Line **transport input** Line
default transport input LINE

transport input {all | ssh | telnet | none}

default transport input

all	Line
ssh	Line SSH
telnet	Line Telnet
none	Line

VTY

TTY

NONE

default transport input

Line

Line

VTY

VTY

show running

Line

default transport input no transport
LINE

input

transport input none

line vty 0 4

telnet

Ruijie# **configure terminal**Ruijie(config)# **line vty 0 4**Ruijie(config-line)# **transport input telnet**

show running	

RGOS10.1

access-class

Line ACL access-class *acl-no*
 { in | out } Line no access-class
access-list-number {in | out} LINE ACL
 [no] access-class *access-list-number* {in | out}

<i>access-list-number</i>	access-list
<i>in</i>	
<i>out</i>	

Line

CLI

copy tftp

- ping
- traceroute

ping

ping [**ip**] [*ip-address*] [**length** *length*] [**ntimes** *times*] [**timeout** *seconds*]
[**data** *data*] [**source** *source*]]

<i>ip-address</i>	IPv4
<i>length</i>	
<i>times</i>	
timeout	
<i>data</i>	
<i>source</i>	IPv4

IP 2 5 100Byte

Ping

ping
ping

ping

	2	5	100Byte
IP		'!'	
'.'		ping	
	ping		
	ping		
			DNS

<i>ip-address</i>	IPv4
<i>number</i>	

```

3      192.168.110.1      16 msec  12 msec  16 msec
4      * * *
5      61.154.8.129      12 msec  28 msec  12 msec
6      61.154.8.17       8 msec   12 msec  16 msec
7      61.154.8.250      12 msec  12 msec  12 msec
8      218.85.157.222    12 msec  12 msec  12 msec
9      218.85.157.130    16 msec  16 msec  16 msec
10     218.85.157.77     16 msec  48 msec  16 msec
11     202.97.40.65      76 msec  24 msec  24 msec
12     202.97.37.65     32 msec  24 msec  24 msec
13     202.97.38.162    52 msec  52 msec  224 msec
14     202.96.12.38     84 msec  52 msec  52 msec
15     202.106.192.226   88 msec  52 msec  52 msec
16     202.106.192.174   52 msec  52 msec  88 msec
17     210.74.176.158   100 msec  52 msec  84 msec
18     202.108.37.42    48 msec  48 msec  52 msec

```

Ruijie#

```

                                     IP
202.108.37.42                       1  17
4

```

Ruijie# **traceroute** *www.ietf.org*

Translating " *www.ietf.org* "...[OK]

< press Ctrl+C to break >

Tracing the route to 64.170.98.32

```

1      192.168.217.1    0 msec  0 msec  0 msec
2      10.10.25.1       0 msec  0 msec  0 msec
3      10.10.24.1       0 msec  0 msec  0 msec
4      10.10.30.1      10 msec  0 msec  0 msec
5      218.5.3.254     0 msec  0 msec  0 msec
6      61.154.8.49     10 msec  0 msec  0 msec
7      202.109.204.210  0 msec  0 msec  0 msec
8      202.97.41.69    20 msec  10 msec  20 msec
9      202.97.34.65    40 msec  40 msec  50 msec
10     202.97.57.222    50 msec  40 msec  40 msec
11     219.141.130.122  40 msec  50 msec  40 msec
12     219.142.11.10   40 msec  50 msec  30 msec
13     211.157.37.14   50 msec  40 msec  50 msec
14     222.35.65.1     40 msec  50 msec  40 msec
15     222.35.65.18    40 msec  40 msec  40 msec
16     222.35.15.109   50 msec  50 msec  50 msec
17     * * *
18     64.170.98.32    40 msec  40 msec  40 msec

```

-
- interface aggregateport
 - interface fastEthernet
 - interface giagbitEthernet
 - interface tenGigabitEthernet
 - interface vlan
 - medium-type
 - descriptioin
 - shutdown
 - speed
 - duplex
 - flowcontrol
 - mtu
 - clear counters
 - clear interface
 - switchport
 - snmp trap link-status

interface aggregateport

no

interface aggregateport *port-number*

port-number Aggregate port

port

aggregate port aggregate

aggregate port show interfaces show
interfaces aggregateport

Ruijie(config)# **interface aggregateport 3**
Ruijie(config-if)#

show interfaces	

interface fastEthernet

interface fastEthernet *mod-num/port-num*

mod-num/port-num /

no show interfaces
show interfaces fastEthernet

Ruijie(config)# **interface fastEthernet 1/2**
Ruijie(config-if)#

show interfaces	

interface giagbitEthernet

interface gigabitEthernet *mod-num/port-num*

mod-num/port-num /

no **show interfaces**
show interfaces gigabitEthernet

Ruijie(config)# **interface gigabitEthernet 1/2**
Ruijie(config-if)#

show interfaces	

interface tenGigabitEthernet

10G

interface tenGigabitEthernet *mod-num/port-num*

mod-num/port-num /

no **show interfaces**
show interfaces tenGigabitEthernet

```
Ruijie(config)# interface tenGigabitEthernet 1/2  
Ruijie(config-if)#
```

```
medium-type { fiber | copper }  
no medium-type
```

```
fiber  
copper
```

Ap SVI

```
Ruijie(config)# interface gigabitethernet 1/1  
Ruijie(config-if)# medium-type copper
```

show interfaces	

```
24SFP/12GT        12    SFP        12    10/100/1000M BASE-T  
  
                                 SFP        10/100/1000M  
BASE-T
```

descriptioin

no

```
description string  
no description
```

```
string
```

show interfaces

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# description GBIC-1
```

show interfaces	

shutdown

no

shutdown
no shutdown

Ap SVI

show interfaces

Ap 1

```
Ruijie(config)# interface aggregateport 1
Ruijie(config-if)# shutdown
```

Ap 1

```
Ruijie(config)# interface aggregateport 1
Ruijie(config-if)# no shutdown
```

clear interface	
show interfaces	



no shutdown

speed

no

10

show interfaces	

duplex

no

duplex {auto | full | half}

no duplex

auto

full

half

show interfaces

Ruijie(config-if)# **duplex full**

show interfaces	

flowcontrol

no

flowcontrol {auto | off | on}

no flowcontrol

auto
off
on

show interfaces

1/1

Ruijie(config)# **interface gigabitethernet 1/1**
Ruijie(config-if)# **flowcontrol on**

show interfaces	

mtu

mtu

Mtu num

num 64 9216(65536)

1500

mtu

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mtu 9216
```

show interfaces	

carrier-delay

```

                                carrier-delay
                                no
                                carrier-delay [ seconds ]
                                no carrier-delay

                                seconds                0 60

                                2

                                DCD      Down      Up
                                DCD

                                DCD

                                DCD

                                5

Ruijie(config)# interface gigabitethernet 1/1
Ruijie(coinfig)# carrier-delay 5
```

clear counters

clear counters [*interface-id*]

interface-id

show interfaces

clear counters

Ruijie# **clear counters gigabitethernet 1/1**

show interfaces	

clear interface

clear interface *interface-id*

interface-id

Aggregate port Switch Port,L2 Aggregate port ,Routed port,L3
shutdown **no shutdown**

Ruijie# **clear interface gigabitethernet 1/1**

switch port	access	VLAN	VLAN 1
-------------	--------	------	--------

```

      VLAN ID
VLAN      VLAN
VLAN ID      VLAN
      trunkport

```

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport access vlan 2
```

switchport mode	switch port
switchport trunk	trunkport native VLAN Trunk VLAN

	Trunk	VLAN	vlan-list
	VLAN		VLAN
	VLAN ID	VLAN ID	
	-	10-20	,
		1-10,20-25,30,33	
allowed vlan	allB4C6814D402C80F56>.	ID	
<i>vlan-list</i>			

Protected is disabled
Vlan lists is
1,3-4094



show interfaces

Ruijie(config-if)# snmp trap link-status	link trap .
Ruijie(config-if)# no snmp trap link-status	link trap .

show interfaces

show interfaces [*interface-id*] [**counters** | **description** | **status** | **switchport** | **trunk**]

interface-id
loopback

aggregateport SVI

counters



Aggregate Port

port-group

Aggregate Port no
Aggregate Port

port-group *port-group-number*

no port-group

Aggregate Port

<i>port-group-number</i>	Aggregate Port Aggregate Port

**aggregateport load-balance {dst-mac | src-mac | src-dst-mac |
dst-ip | src-ip | ip }
no aggregateport load-balance**

dst-mac	APMACMACMAC
src-mac	APMACMACMAC
ip	IPIP IP——IP IP——IP
dst-ip	APIP IP IP
src-ip	APIP IP IP
src-dst-mac	MACMAC MAC——MAC MAC—— MAC

MAC86

show aggregateport load-balance

Ruijie(config)# **aggregateport load-balance dst-mac**

show aggregateport load-balance	aggregateport

show aggregateport

aggregateport

show aggregateport {[*aggregate-port-number*] **summary** | **load-balance**}

<i>aggregate-port-number</i>	Aggregate Port aggeregate port aggregate port
load-balance	
summary	

aggregate port

aggregate port

Ruijie# **show aggregateport 1 summary**

AggregatePort	MaxPorts	SwitchPort Mode	Ports
-----	-----	-----	-----
Ag1	8	Enabled	ACCESS

aggregateport load-balance	AP

VLAN

name

VLAN

no**name** *vlan-name***no name**

<i>vlan-name</i>	VLAN

VLAN

VLAN

show vlan

vlan

switch port access

switch port access VLAN
switchport access vlan VLAN

switch port trunk VLAN
VLAN VLAN VLAN trunk port
VLAN VLAN **switchport trunk**

Ruijie(config-if)# **switchport mode trunk**

switchport access	statics accessport VLAN
switchport trunk	trunkport native VLAN Trunk VLAN

switchport access

access port VLAN
no VLAN

switchport access vlan *vlan-id*

no switchport access vlan

<i>vlan-id</i>	VLAN ID

switch port access VLAN VLAN 1

VLAN ID VLAN ID
 VLAN VLAN
 VLAN ID VLAN
 trunkport

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport access vlan 2
```

switchport mode	switch port
switchport trunk	trunkport native VLAN Trunk VLAN

switchport trunk

trunkport native VLAN Trunk VLAN
no trunk

```
switchport trunk {allowed vlan { all | [add | remove | except]
vlan-list }}| native vlan vlan-id}
no switchport trunk {allowed vlan | native vlan }
```

allowed vlan <i>vlan-list</i>	Trunk VLAN vlan-list VLAN VLAN VLAN ID VLAN ID - 10-20 , 1-10,20-25,30,33 all VLAN VLAN add VLAN VLAN remove VLAN VLAN except VLAN VLAN VLAN
native vlan <i>vlan-id</i>	Native VLAN

show vlan

VLAN

show vlan [*id vlan-id*]

<i>vlan-id</i>	VLAN ID

end

Ctrl+C

exit

```
Ruijie# show vlan id 1
VLAN[1] "VLAN0001"
GigabitEthernet 3/1
GigabitEthernet 3/2
GigabitEthernet 3/3
GigabitEthernet 3/4
GigabitEthernet 3/5
GigabitEthernet 3/6
GigabitEthernet 3/7
GigabitEthernet 3/8
GigabitEthernet 3/9
GigabitEthernet 3/10
GigabitEthernet 3/11
GigabitEthernet 3/12
```

name	VLAN

VLAN

switchport access	Vlan
--------------------------	------

Super-vlan

supervlan

VLAN

supervlan

supervlan

no supervlan

no subvlan [*vlan-id-list*]

<i>Vlan-id-list</i>	VLAN subvlan ID, vlan

VLAN

no subvlan supevlan subvlan

```
Ruijie(config)# vlan 3
Ruijie(config-vlan)# supervlan
Ruijie(config-vlan)# subvlan 5
Ruijie(config-vlan)# subvlan 7-19
```

show supervlan	supervlan

subvlan-address-range

subvlan ip

subvlan-address-range *start-ip end-ip*

no subvlan-address-range

<i>start-ip</i>	SubVLAN IP
<i>end-ip</i>	SubVLAN IP

VLAN

end

Ctrl+C

exit

Ruijie(config)#

show supervlan

SuperVLAN SubVLAN

show supervlan

show supervlan id *vlan-id*

<i>vlan-id</i>	VLAN ID

Ruijie# **show supervlan**

Protocol VLAN

- **protocol-vlan ipv4** *addr mask addr* **vlan** *id*
- **protocol-vlan profile** *num* **frame-type** [*type*] **ether-type** [*type*]
- **protocol-vlan profile** *num* **vlan** *id*

protocol-vlan ipv4 addr mask addr vlan id

IP

VLAN

addr IP X.X.X.X*id* VLAN ID 1- VLAN

```
Ruijie(config)# protocol-vlan ipv4 192.168.100.3 mask  
255. 255.255.0 vlan 100
```

```
show protocol-vlan ipv4
```

```
no protocol-vlan ipv4 addr mask addr
```

```
no protocol-vlan ipv4
```

RGOS10.1

protocol-vlan profile num frame-type type ether-type type

profile

num profile
type

Ruijie(config)# **protocol-vlan profile 1 frame-type**
ETHERII ether-type aarp

show protocol-vlan profile
show protocol-vlan profile *num*
no protocol-vlan profile
no protocol-vlan profile *num*

RGOS10.1

protocol-vlan profile num vlan id

profile

num profile
id VLAN ID 1- VLAN

Ruijie(config-if)# **protocol-vlan profile 1 vlan 101**

show protocol-vlan profile
show protocol-vlan profile *num*

no protocol-vlan profile

no protocol-vlan profile *num*

RGOS10.1

- **show protocol-vlan**

show protocol-vlan

Protocol VLAN

show vlan protocol-vlan

Ruijie# **show protocol-vlan**

RGOS10.1

PrivateVLAN

- **private-vlan type**
- **private-vlan association**
- **private-vlan mapping**
- **switchport mode private-vlan**
- **switchport private-vlan host-association**
- **switchport private-vlan mapping**

private-vlan type

VLAN VLAN

private-vlan {*community* | *isolated* | *primary*}

no private-vlan {*community* | *isolated* | *primary*}

community community VLAN

isolated isolated VLAN

primary primary VLAN

no VLAN

VLAN

VLAN

Ruijie(config)# **vlan 22**

Ruijie(config-vlan)# **private-vlan primary**

show vlan private-vlan

RGOS10.1

private-vlan association

secondary VLAN primary VLAN

private-vlan association {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan association

svlist secondary VLAN list

no primary VLAN secondary VLAN

Primary VLAN

Ruijie(config)# **vlan 22**

Ruijie(config-vlan)# **private-vlan association add 24-26**

show vlan private-vlan

RGOS10.1

private-vlan mapping

secondary VLAN SVI

private-vlan mapping {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan mapping

svlist secondary VLAN list

no

Primary VLAN

Ruijie(config)# **interface vlan 22**

Ruijie(config-if)# **private-vlan mapping add 24-26**

no: VLAN

```
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode private-vlan host
Ruijie(config-if)# switchport private-vlan host-association 22 23
```

show vlan private-vlan

RGOS10.1

switchport private-vlan mapping

private VLAN

secondary VLAN

switchport private-vlan mapping *p_vid* [*svlist*]**add** *svist* [**remove** *svlist*]

no switchport private-vlan mapping

p_vid

primary VID

svlist

secondary VLAN list

no

secondaryVLAN

secondary VLAN

VLAN

```
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode private-vlan
promiscuous
Ruijie(config-if)# switchport private-vlan mapping 22
add 23-25
```


switchport mode hybrid

switchport mode hybrid

no switchport mode

hybrid

no

hybrid

Ruijie(config-if)# **switchport mode hybrid**

RGOS10.1

switchport hybrid native vlan

switchport hybrid native vlan *vid*

no switchport hybrid native vlan

hybrid

vlan

no

hybrid

VLAN

Ruijie(config-if)# **switchport hybrid native vlan 3**

RGOS10.1

switchport hybrid allowed vlan

switchport hybrid allowed vlan[[add][tagged | untagged] | remove]

vlist

no switchport hybrid allowed vlan

hybrid

no hybrid

Ruijie(config-if)# **switchport hybrid allowed vlan add
untagged 3-5**

RGOS10.1


```
Ruijie# show frame-tag tpid
Port      tpid
-----
Gi0/3     0x9100
```

show frame-tag tpid

RGOS10.1

inner-priority-trust enable

```

/          tag          tag
inner-priority-trust enable
no inner-priority-trust enable

no          tag          tag
```

```
Ruijie(config)# interface gigabitEthernet 0/2
Ruijie(config-if)# inner-priority-trust enable
```

show inner-priority-trust

RGOS10.1 S37

- **show frame-tag tpid**
- **show inner-priority-trust**

show frame-tag tpid

private VLAN

show frame-tag tpid [[

MAC

- **mac-address-table aging-time**
- **clear mac-address-table dynamic**
- **clear mac-address-table filtering**
- **clear mac-address-table static**
- **mac-address-table static**
- **mac-address-table filtering**
- **mac-address-table notification**
- **snmp trap mac-notification**
- **address-bind**
- **address-bind ip-address**
- **address-bind uplink**
- **address-bind ipv6-mode**

mac-address-table aging-time

no

mac-address-table aging-time *seconds*

no mac-address-table aging-time

seconds

300

show mac-address-table aging-time

show mac-address-table dynamic

MAC

clear mac-address-table filtering

clear mac-address-table filtering [**address** *mac-addr*

static	
address <i>mac-addr</i>	
interface <i>interface-id</i>	
vlan <i>vlan-id</i>	VLAN

show mac-address-table static

MAC 00d0.f800.073c

Ruijie# **clear mac-address-table static address**
00d0.f800.073c

mac-address-table static	
show mac-address-table static	

mac-address-table static

no

mac-address-table static *mac-addr* **vlan** *vlan-id* **interface** *interface-id*

no mac-address-table static *mac-addr* **vlan** *vlan-id* **interface**
interface-id

<i>mac-addr</i>	MAC
<i>vlan-id</i>	VLAN
<i>interface-id</i>	(AggregatePort)

mac-address-table static **show**
mac-address-table static **clear**

00d0.f800.073c VLAN 4

gigabitethernet 1/1

Ruijie(config)# **mac-address-table static**
00d0.f800.073c vlan 4 interface gigabitethernet 1/1

show mac-address-table static	
clear mac-address-table static	

mac-address-table filtering

no

mac-address-table filtering *mac-address* **vlan** *vlan-id*

no mac-address-table filtering *mac-address* **vlan** *vlan-id*

<i>mac-address</i>	
vlan <i>vlan-id</i>	VLAN ID

show mac-address-table filtering

```
Ruijie(config)# mac-address-table filtering  
00d0f8000000 vlan 1
```

clear mac-address-table filtering	
show mac-address-table filtering	

mac-address-table notification

MAC

no**mac-address-table notification** [interval *value* | history-size *value*]**no mac-address-table notification** [interval | history-size]

interval 1	MAC Trap
history-size <i>value</i>	MAC 50

1

50

MAC

Trap

snmp-server

enable traps mac-notification

MAC

Trap

```
Ruijie(config)# mac-address-table notification
Ruijie(config)# mac-address-table notification
interval 40
Ruijie(config)# mac-address-table notification
history-size 100
```

snmp-server enable traps	trap
show mac-address-table notification	MAC
snmp trap mac-notification	MAC

snmp trap mac-notification

MAC

no**snmp trap mac-notification {added | removed}****no snmp trap mac-notification {added | removed}**

added	
removed	

show mac-address-table notification *interface*

```
Ruijie(config)# interface gigabitethernet 1/1
```

Ruijie(config-if)# **snmp trap mac-notification added**

mac-address-table notification	MAC
show mac-address-table notification	MAC

address-bind

ip mac .

address-bind *ip-address mac-address*

no address-bind

address-bind

<i>intf-id</i>	

	IP	MAC	
IP	IP	MAC	IP
MAC			

(address-bind install)

fa 0/1

Ruijie(config)#**address-bind uplink** *fa0/1*

show address-bind uplink	

RGOS10.1

address-bind install

/

address-bind install

no address-bind install

Ruijie(config)# **address-bind install**

show address-bind uplink	
show address-bind summary	

RGOS10.1

address-bind ipv6-mode

ip IP

address-bind ipv6-mode compatible

address-bind ipv6-mode loose

address-bind ipv6-mode strict

:

	Ipv4	IPV6
	IPV4+MAC	ipv6
	IPV4+MAC	IPV6

	IPv4+MAC	MAC	IPv6
		MAC	IPv6

IP 192.168.5.2 00d0.f822.33aa
IPv6

```
Ruijie# configure t  
Enter configuration commands, one per line. End with  
CNTL/Z.  
Ruijie(config)# address-bind 00d0.f822.33aa ip  
192.168.5.2  
Ruijie(config)# address-bind ipv6-mode compatible
```

- **show mac-address-table address**
- **show mac-address-table aging-time**
- **show mac-address-table count**
- **show mac-address-table dynamic**
- **show mac-address-table filtering**
- **show mac-address-table interface**
- **show mac-address-table notification**
- **show mac-address-table static**
- **show mac-address-table vlan**
- **show address-bind**
- **show address-bind summary**
- **show address-bind [ip-address *ip* | mac-address *mac*]**

show mac-address-table address

MAC

```
show mac-address-table [address mac-addr] [interface interface-id]  
[vlan vlan-id]
```

address <i>mac-addr</i>	MAC
interface <i>interface-id</i>	
vlan <i>vlan-id</i>	VLAN

Ruijie# **show mac-address-table address** 00d0.f800.1001

Vlan	MAC Address	Type	Interface
-----	-----	-----	-----
1	00d0.f800.1001	STATIC	Gi1/1

show mac-address-table static	
show mac-address-table filtering	
show mac-address-table dynamic	
show mac-address-table interface	
show mac-address-table vlan	VLAN
show mac-address-table count	
show mac-address-table static	
show mac-address-table filtering	

show mac-address-table aging-time

show mac-address-table aging-time

Ruijie# **show mac-address-table aging-time**

MAC

interface-id [**vlan** *vlan-id*]

<i>mac-addr</i>	MAC
<i>vlan-id</i>	VLAN
<i>interface-id</i>	(AggregatePort)

Ruijie# **show mac-address-table dynamic**

Vlan	MAC Address	Type	Interface
1	0000.0000.0001	DYNAMIC	gigabitethernet 1/1
1	0001.960c.a740	DYNAMIC	gigabitethernet 1/1
1	0007.95c7.dff9	DYNAMIC	gigabitethernet 1/1
1	0007.95cf.eee0	DYNAMIC	gigabitethernet 1/1
1	0007.95cf.f41f	DYNAMIC	gigabitethernet 1/1
1	0009.b715.d400	DYNAMIC	gigabitethernet 1/1
1	0050.bade.63c4	DYNAMIC	gigabitethernet 1/1

clear mac-address-table dynamic	

show mac-address-table filtering

show mac-address-table static [**addr** *mac-addr*] [**vlan** *vlan-id*]

<i>mac-addr</i>	MAC

MAC

vlan-id

show mac-address-table static	
show mac-address-table filtering	
show mac-address-table dynamic	
show mac-address-table address	
show mac-address-table vlan	VLAN

Current History Table Length : 0

Ruijie# **show mac-address-table notification history**

History Index : 0

MAC Changed Message :

Operation:ADD Vlan : 1 MAC Addr: 00f8.d012.3456

GigabitEthernet 3/1

show address-bind

show address-bind

```
Ruijie# show address-bind
Total Bind Addresses in System : 2
IP Address      Binding MAC Addr
-----
3.3.3.3         00d0.f811.1112
3.3.3.4         00d0.f811.1117
```

address-bind	

show address-bind summary

address-bind install

show address-bind summary

```
Ruijie# show address-bind summary
Total Bind Addresses in System : 0
Max Bind Addresses limit in System : 1000
System Address bind status:SUCCESS
```

address-bind	

show address-bind [ip-address *ip* | mac-address *mac*]

IP MAC

show address-bind [ip-address *ip* | mac-address *mac*]

```
Ruijie# show address-bind ip-address 3.3.3.3
IP Address      Binding MAC Addr
-----
3.3.3.3         00d0.f811.1112
```

address-bind	

DHCP Snooping

DHCP snooping

DHCP snooping

- **ip dhcp snooping**
- **ip dhcp snooping bootp-bind**
- **ip dhcp snooping verify mac-address**
- **ip dhcp snooping binding**
- **ip dhcp snooping database write-delay**
- **ip dhcp snooping database write-to-flash**
- **ip dhcp snooping information option**

ip dhcp snooping

DHCP Snooping

no

DHCP snooping

[no] ip dhcp snooping

DHCP snooping

DHCP snooping

show ip dhcp snooping

DHCP snooping

Ruijie# **configure terminal**

Ruijie(config)# **ip dhcp snooping**

Ruijie(config)# **end**

Ruijie# **show ip dhcp snooping**

Ruijie# **show ip dhcp snooping**

```
Switch DHCP snooping status  ENABLE
Verification of hwaddr field status  DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                      Trusted
-----
FastEthernet0/11               yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping bootp-bind

```

DHCP Snooping      Bootp
no                  DHCP snooping      Bootp
```

[no] **ip dhcp snooping bootp-bind**

```

DHCP Snooping      Bootp
DHCP Snooping      Bootp      Bootp
Bootp              DHCP Snooping
```

```

DHCP Snooping      Bootp
```

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping bootp-bind
Ruijie(config)# end
```

Ruijie# **show ip dhcp snooping**

```
Switch DHCP snooping status  ENABLE
Verification of hwaddr field status  DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                      Trusted
-----
FastEthernet0/11              yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping verify mac-address

```
MAC
no          MAC
```

[no] ip dhcp snooping verify mac-address

```
MAC          DHCP CLIENT
MAC          DHCP CLIENT MAC
MAC
```

```
DHCP        MAC
```

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping verify mac-address
Ruijie(config)# end
```

Ruijie# **show ip dhcp snooping**

```
Switch DHCP snooping status  ENABLE
Verification of hwaddr field status  DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                      Trusted
-----
FastEthernet0/11              yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping binding

DHCP snooping
no

[no] ip dhcp snooping binding *mac-address* **vlan** *vlan-id* **ip**
ip-address interface interface-id

<i>mac-address</i>	MAC
<i>vlan-id</i>	VLAN
<i>ip-address</i>	IP
<i>interface-id</i>	

DHCP snooping
DHCP

Ruijie# **configure terminal**
Ruijie(config)# **ip dhcp snooping binding** *00d0.f801.0101*


```
vlan 1 ip 192.168.4.243 interface fastethernet 0/1
Ruijie(config)# end
Ruijie# show ip dhcp snooping binding
Total number of bindings: 1
MacAddress   IpAddress   Lease   Type   VLAN   Interface
-----
00d0.f801.0101 192.168.1.1 - static 1 fastethernet 0/1
```

show ip dhcp snooping binding	DHCP snooping

ip dhcp snooping information option

DHCP option82
no

[no] ip dhcp snooping information option

DHCP option82 DHCP

```
DHCP snooping Support Bootp bind status: ENABLE
Interface                               Trusted
-----                               -
FastEthernet0/11                       yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping database write-delay

```
FLASH                                DHCP Snooping                                no
FLASH
```

ip dhcp snooping database write-delay *time*

[no] ip dhcp snooping database write-delay

```
time                                DHCP snooping                                FLASH FLASH
```

```
no                                DHCP snooping                                E
```

```
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                               Trusted
-----                               -
FastEthernet0/11                       yes
```

DHCP snooping

DHCP snooping

ip dhcp snooping trust

ip dhcp snooping address-bind

ip dhcp snooping trust

DHCP snooping TRUST
no UNTRUST

[no] ip dhcp snooping trust

UNTRUST

TRUST DHCP TRUST
DHCP UNTRUST

fastethernet 0/1 TRUST

Ruijie# **configure terminal**

Ruijie(config)# **interface fastethernet 0/1**

Ruijie(config-if)# **ip dhcp snooping trust**

Ruijie(config-if)# **end**

Ruijie# **show ip dhcp snooping**

Switch DHCP snooping status ENABLE

Verification of hwaddr field status DISABLE

DHCP snooping database write-delay time: 0 seconds

DHCP snooping option 82 status: ENABLE

DHCP snooping Support Bootp bind status: ENABLE

Interface Trusted

----- -----

FastEthernet0/11 yes

show ip dhcp snooping	DHCP snooping

ip dhcp snooping address-bind

no

[no] ip dhcp snooping address-bind

Snooping	IP	DHCP
MAC	IP	VLAN ID

fastethernet 0/1

```
Ruijie# configure terminal
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ip dhcp snooping address-bind
Ruijie(config-if)# end
```

DHCP snooping

- **show ip dhcp snooping**
- **show ip dhcp snooping binding**

show ip dhcp snooping

DHCP Snooping

show ip dhcp snooping

DHCP Snooping

DHCP Snooping

Ruijie# **show ip dhcp snooping**

```
Switch DHCP snooping status    ENABLE
Verification of hwaddr field status  DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                      Trusted
-----                      -
FastEthernet0/11              yes
```

ip dhcp snooping	DHCP snooping
ip dhcp snooping verify mac-address	DHCP snooping mac
ip dhcp snooping write-delay	flash

DHCP snooping

DHCP snooping

```
Ruijie# debug ip dhcp snooping event
```

```
Ruijie# debug ip dhcp snooping packet
```

IGMP Snooping

IGMP Snooping profile

Profile

- deny
 - permit
 - range
-
- ip igmp profile
 - ip igmp snooping filter
 - ip igmp snooping ivgl
 - ip igmp snooping ivgl-svgl
 - ip igmp snooping limit-ipmc vlan
 - ip igmp snooping max-groups
 - ip igmp snooping source-check default-server
 - ip igmp snooping source-check port
 - ip igmp snooping svgl
 - ip igmp snooping fast-leave enable
 - ip igmp snooping fast-leave enable
 - ip igmp snooping vlan mrouter interface
 - ip igmp snooping vlan mrouter interface profile
 - ip igmp snooping vlan mrouter learn
 - ip igmp snooping vlan static

deny

deny profile profile

deny

deny

deny	profile

profile deny

profile

profile range
profile profile

224.2.2.2 profile :

Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2
Ruijie(config-profile)# deny

ip igmp profile	profile
range	1

profile deny

profile

profile range
profile profile

224.2.2.2 profile :

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2
Ruijie(config-profile)# permit
```

ip igmp profile	profile
range	

range

profile profile range

no

```
range low-ip-address [high-ip-address]
no range low-ip-address [high-ip-address]
```

low-ip-address
high-ip-address

profile

profile

range	profile

ip igmp snooping filter

profile no profile

ip igmp snooping filter *profile-number*

no ip igmp snooping filter *profile-number*

Profile-number profile

profile filter

0/1 profile 1

Ruijie(config)# **interface fastEthernet** *0/1*

Ruijie(config-if)# **ip igmp snooping filter** *1*

ip igmp profile	profile

ip igmp snooping ivgl

igmp snooping ivgl ip
igmp snooping ivgl no igmp snooping
ip igmp snooping ivgl
no ip igmp snooping

```
Ruijie(config)# ip igmp snooping ivgl
```

igmp snooping ivgl-svgl

Ruijie(config)# **ip igmp snooping ivgl-svgl**

ip igmp snooping svgl	igmp snooping svgl
ip igmp snooping ivgl	igmp snooping ivgl

ip igmp snooping source-check default-server	IP IP

ip igmp snooping max-groups

igmp snooping max-groups , **ip**
no
ip igmp snooping max-groups *number*
no ip igmp snooping max-groups

number 0 – 4294967294

IGMP Report

0/1 100

```
Ruijie(config)# interface fastEthernet 0/1  
Ruijie(config-if)# ip igmp snooping max-group 100
```

2025-10-20 14:00:00 2025-10-20 14:00:00 2025-10-20 14:00:00 2025-10-20 14:00:00 2025-10-20 14:00:00

ip igmp snooping source-check default-server *address*
no ip igmp snooping source-check

address

ip

IPMC

IPMC mroute

igmp snooping

Ruijie(config)# **ip igmp snooping source-check port**

ip igmp snooping source-check default-server	ip

ip igmp snooping svgl

igmp snooping svgl ip
igmp snooping svgl no igmp snooping
ip igmp snooping svgl
no ip igmp snooping

disable

svgl svgl

igmp snooping svgl

Ruijie(config)# **ip igmp snooping svgl**



ip igmp snooping ivgl

IGMP Profile

ip igmp snooping vlan mrouter interface
profile *no* *profile*

ip igmp snooping vlan *vid* mrouter interface *interface-id* profile
profile-num

no ip igmp snooping vlan *vid* mrouter interface *interface-id* profile

vid *vlan id*

interface-id *id*

profile-num *profile*

profile

profile

profile

Ruijie(config)# **ip igmp snooping vlan 1 mrouter interface**
fastEthernet 0/1 profile 1

ip igmp snooping vlan mrouter interface	

ip igmp snooping vlan mrouter learn pim-dvmrp

IGMP query/dvmrp PIM
ip igmp snooping vlan mrouter
learn *no*

ip igmp snooping vlan *vid* mrouter learn pim-dvmrp

no ip igmp snooping vlan *vid* mrouter learn pim-dvmrp

vid

vlan id

igmp snooping

```
Ruijie(config)# ip igmp snooping vlan 1 mrouter learn  
pim-dvmrp
```

ip igmp snooping vlan <i>vid</i> mrouter learn pim-dvmrp	

ip igmp snooping dyn-mr-aging-time

```
ip igmp snooping dyn-mr-aging-time time  
no ip igmp snooping dyn-mr-aging-time
```

time

300s

100s

Ruijie(config)# **ip igmp snooping dyn-mr-aging-time 100**

ip igmp snooping	

ip igmp snooping vlan static interface

igmp snooping

IGMP

ip igmp**snooping vlan static interface** no**ip igmp snooping vlan** *vid* **static** *ip-addr* **interface** *interface-id***no ip igmp snooping vlan** *vid* **static** *ip-addr* **interface** *interface-id*

ip igmp snooping fast-leave enable

igmp snooping fast-leave		ip igmp
snooping fast-leave enable	no	igmp snooping
fast-leave		

ip igmp snooping fast-leave enable
no ip igmp snooping fast-leave enable

disable

fast-leave IGMP leave

igmp snooping fast-leave
 Ruijie(config)# **ip igmp snooping fast-leave**

ip igmp snooping suppression enable

igmp snooping suppression		ip igmp
snooping suppression enable	no	igmp snooping
suppression		

ip igmp snooping suppression enable
no ip igmp snooping suppression enable

disable

report suppression IGMP v1/v2

igmp snooping suppression

Ruijie(config)# **ip igmp snooping suppression**

ip igmp snooping query-max-resposne-time

query

ip igmp snooping query-max-resposne-time *time*
no ip igmp snooping query-max-resposne-time

time

10s

query

query

100s

Ruijie(config)# **ip igmp snooping query-max-resposne-time 100**

ip igmp snooping	

- **show ip igmp snooping** [**gda-table** | **interface** | **mrouter**]
- **show ip igmp profile** [*profile-number*]
- **debug igmp**

show ip igmp snooping

igmp snooping

show ip igmp snooping [**gda-table** | **interfaces** | **mrouter**| **statistics**
[**vlan** *vlan-id*]]

igmp snooping

gda-table

interfaces igmp snooping filtering

mrouter

statistics [**vlan** *vlan-id*] snooping

EXEC

show ip igmp profile [profile-number]

debug igmp

igmp

no

debug igmp-snp

undebug igmp-snp

EXEC

no

spanning-tree

no

spanning tree

```
Ruijie(config)# spanning-tree
```

```
BridgeForwardDelay
```

```
Ruijie(config)# spanning-tree forward-time 10
```

```
show spanning-tree STP
```

```
spanning-tree mst cost STP PathCost
```

```
spanning-tree tx-hold-count STP TxHoldCount
```

spanning-tree bpdufilter

```
BPDU filter enabled
disabled BPDU filter
```

```
spanning-tree bpdufilter [enabled | disabled]
```

```
enabled BPDU filter
```

```
Disabled BPDU filter
```

```
Ruijie(config)# interface gigabitethernet 1/1
```

```
Ruijie(config-if)# spanning-tree bpdufilter enable
```

```
show spanning-tree interface STP
```

spanning-tree bpduguard

```
BPDU Guard enabled
disabled BPDU Guard
```

spanning-tree bpduguard [enabled | disabled]

enabled BPDU Guard

disabled BPDU Guard

```
Ruijie(config)# interface gigabitethernet 1/1  
Ruijie(config-if)# spanning-tree bpduguard enable
```

show spanning-tree interface STP

spanning-tree link-type

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree link-type
point-to-point
```

```
show spanning-tree interface STP
```

spanning-tree max-hops

Count	BPDU	BPDU	Max-hops
Instance	Region	no	

```
spanning-tree max-hops hop-count
```

```
no spanning-tree max-hops
```

hop-count	BPDU	1	40
-----------	------	---	----

hop-count	20
-----------	----

Region	Root Bridge	BPDU	Hot Count	Root
Bridge		Hop Count	1	0
BPDU		Hops	0	BPDU
max-hops	Instance			

MST Instance	Max-hops	10
--------------	----------	----

```
Ruijie(config)# spanning-tree max-hops 10
```

```
show spanning-tree mst
```

```
show spanning-tree MSTP
```

spanning-tree mode

STP no

spanning-tree mode [stp | rstp | mstp]

no spanning-tree mode

stp Spanning tree protocol(IEEE 802.1d)

rstp Rapid spanning tree protocol(IEEE 802.1w)

mstp Multiple spanning tree protocol(IEEE 802.1s)

MSTP

.

Ruijie(config)# **spanning-tree mode stp**

show spanning-tree

spanning-tree mst configure

	MST	MSTP Region	
no	name	revision	vlan map

spanning-tree mst configuration

no spanning-tree mst configuration

instance	vlan	Vlan	Instance 0
name			
revision	0		

end Ctrl+C

exit

MST

instance *instance-id* **vlan** *vlan-range* Vlan MST Instance
 instance-id 0 64 vlan 1 4095 *vlan-range*
 vlan VLAN ID VLAN ID
 ' ' VLAN ID instance 10 *vlan* 2,3,6-9
 VLAN 2 3 6 7 8 9 Instance 10
 VLAN Instance 0 VLAN Instance
no **no instance** *instance-id* [*vlan* *vlan-range*] (no
 Instance 1 64)

name *name* MST 32
 no name

revision *version* MST 0 65535 **no revision**

show MST region

MST VLAN 3, 5-10 MST

Instance 1

Ruijie(config)# **spanning-tree mst configuration**

Ruijie(config-mst)# **instance 1 vlan 3 5-10**

Ruijie(config-mst)# **name region 1**

Ruijie(config-mst)# **revision 1**

Ruijie(config-mst)# **show**

MST configuration

Name [region1]

Revision 1

Instance Vlans Mapped

0 1-2,4,11-4094

1 3,5-10

Ruijie(config-mst)# **exit**

Ruijie(config)#

VLAN 3 Instance 1

MST

```
Ruijie(config-mst)# no instance 1 vlan 3
```

Instance 1

```
Ruijie(config-mst)# no instance 1
```

MST show

```
show spanning-tree mst MST region
```

```
instance instance-id vlan vlan-range Vlan MST Instance
```

```
name MST
```

```
revision MST
```

```
show MST MST
```

spanning-tree mst cost

Instance no

```
spanning-tree [mst instance-id] cost cost
```

```
no spanning-tree [mst instance-id] cost
```

```
instance-id Instance 0 64
```

```
cost 1 200 000 000
```

```
Instance-ID 0
```

Interface

- 1000 Mbps—20000
- 100 Mbps—200000
- 10 Mbps—2000000

cost

Instance 3

400

```
Ruijie(config)# interface gigabitethernet 1/1
```

```
Ruijie(config-if)# spanning-tree mst 3 cost 400
```

```
Instance 20      Gigabitethernet 1/1
10
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree mst 20 port-priority
0
```

show spanning-tree mst instance interface *interface-id*

```
show spanning-tree mst      MSTP
spanning-tree mst cost
spanning-tree mst priority   Instance
```

spanning-tree mst priority

Instance no

```
spanning-tree [mst instance-id] priority priority
no spanning-tree [mst instance-id] priority
```

```
instance-id Instance      0  64
priority                0, 4096,8192, 12288, 16384, 20480,
24576, 28672, 32768, 36864, 40960, 45056, 49152,53248, 57344
61440      16              4096
```

```
instance-id      0
priority          32768
```

Instance 20 8192

Ruijie(config-if)# **spanning-tree mst 20 priority 8192**

show spanning-tree mst instance interface interface-id

show spanning-tree mst MSTP

spanning-tree mst cost

spanning-tree mst port-priority Instance

spanning-tree reset

spanning-tree no

spanning-tree reset

spanning-tree portfast

Portfast disabled
Portfast

spanning-tree portfast [disabled]

disabled Portfast

```
Ruijie(config)# interface gigabitethernet 1/1  
Ruijie(config-if)# spanning-tree portfast
```

show spanning-tree interface STP

spanning-tree portfast bpduguard default

BPDU guard no BPDU
guard

spanning-tree portfast bpduguard default

no spanning-tree portfast bpduguard default

BPDU Guard.

BPDU guard BPDU error-disabled
show spanning-tree

Ruijie(config)# **spanning-tree portfast bpduguard default**

show spanning-tree interface STP

spanning-tree portfast bpdufilter default

BPDU filter no BPDU
filter

spanning-tree portfast bpdufilter default

no spanning-tree portfast bpdufilter default

BPDU filter

BPDU Filter BPDU **show**
spanning-tree

Ruijie(config)# **spanning-tree portfast bpdufilter default**

show spanning-tree interface STP

spanning-tree portfast default

	Portfast	no
Portfast		

spanning-tree portfast default

no spanning-tree portfast default

Portfast

Ruijie(config)# **spanning-tree portfast default**

show spanning-tree interface STP

spanning-tree tc-protection tc-guard

tc-guard	no	tc-guard
tc-guard	tc	

spanning-tree tc-protection tc-guard

no spanning-tree tc-protection tc-guard

tc-guard

Ruijie(config)# **spanning-tree tc-protection tc-guard**

spanning-tree tc-guard

tc-guard	no	tc-guard
tc-guard	tc	

spanning-tree tc-guard
no spanning-tree tc-guard

tc-guard

Ruijie(config-if)# **spanning-tree tc-guard**

spanning-tree guard root

root guard	no	root guard
root guard		

spanning-tree guard root
no spanning-tree guard root

root guard

Ruijie(config-if)# **spanning-tree guard root**

spanning-tree loopguard default

loop guard	no	loop guard
loop guard		bpdu

spanning-tree loopguard default

no spanning-tree loopguard default

loop guard

Ruijie(config)# **spanning-tree loopguard default**

spanning-tree guard loop

loop guard	no	loop guard
loop guard		bpdu

spanning-tree guard loop

no spanning-tree guard loop

loop guard

Ruijie(config-if)# **spanning-tree guard loop**

spanning-tree guard none

guard

no

guard

spanning-tree guard none

no spanning-tree guard none

guard

Ruijie(config-if)# **spanning-tree guard none**

spanning-tree autoedge

Autoedge

disabled

Autoedge

spanning-tree autoedge [disabled]

disabled

Autoedge

Ruijie(config)# **clear spanning-tree detected-protocols**

show spanning-tree interface

STP

spanning-tree compatible enable

MSTI

spanning-tree compatible enable

no spanning-tree compatible enable

Ruijie(config-if)#**spanning-tree compatible enable**

show spanning-tree

```
show spanning-tree [summary | forward-time | hello-time |  
max-age | inconsistentports] tx-hold-count | pathcost method |  
max_hops]
```

summary	MSTP	instance
Inconsistentports		block
forward-time	BridgeForwardDelay	
hello-time	BridgeHelloTime	
max-age	BridgeMaxAge	
max-hops	instance	
tx-hold-count	TxHoldCount	
pathcost method		

```
Ruijie# show spanning-tree hello-time
```

spanningtree pathcost method		
spanning-tree forward-time	BridgeForwardDelay	
spanning-tree hello-time	BridgeHelloTime	
spanning-tree max-age	BridgeMaxAge	
spanning-tree max-hops	instance	
spanning-tree tx-hold-count	TxHoldCount	

show spanning-tree interface

STP

show spanning-tree interface *interface-id*

Instance

switch	
--------	--

switch port routed port

SPAN

SPAN
disabled port

SPAN

show monitor

SPAN

SPAN

1.

1

1

8

Ruijie(config)# **no monitor session 1**Ruijie(config)# **monitor session 1 source interface**
gigabitEthernet 1/1 bothRuijie(config)# **monitor session 1 destination interface**
gigabitEthernet 1/8

show monitor	SPAN

show monitor

SPAN

show monitor [**session** *session_number*]

SPAN

session *session_number* SPAN

show monitor

SPAN 1

```
Ruijie# show monitor session 1
sess-num: 1
src-intf:
GigabitEthernet 3/1 frame-type Both
dest-intf:
GigabitEthernet 3/8
```

monitor session	SPAN

IP

- ip address
- ip unnumbered

ip address

IP

no

IP

ip address *ip-address network-mask* [**secondary**]

no ip address *ip-address network-mask* [**secondary**]



IP

“ 255.0.0.0 ”

- arp
- arp retry
- arp trusted
- arp unresolved
- arp gratuitous-send
- arp timeout
- ip proxy-arp
- service trustedarp

arp

no ARP IP MAC
MAC

arp *ip-address MAC-address type [alias]*

no arp *ip-address MAC-address type [alias]*

<i>ip-address</i>	MAC IP
<i>MAC-address</i>	48
<i>type</i>	ARP arpa
alias	arp RGOS IP

ARP

RGOS ARP 32 IP 48
MAC

clear arp-cache

ARP
ARP

ARP
arp 1.1.1.1 4e54.3800.0002 arpa

clear arp-cache	ARP

arp retry interval

arp IP
2 ARP no
1 ARP

arp retry interval *seconds*

no arp retry interval

<i>seconds</i>	<1-3600>,ARP 1 ——3600 1

ARP 1

ARP ARP ARP

ARP 30s
arp retry interval 30

Arp retry times <i>number</i>	ARP

arp retry times

arp IP

ARP no

5 ARP

arp retry times *number*

no arp retry times

<i>number</i>	ARP <1-100> 1 ARP 1 ARP

ARP ARP 5

ARP ARP

ARP

arp retry times 1

ARP 1

arp retry times 2

arp retry interval <i>seconds</i>	arp

IP

GSN ARP

ARP

ARP

500

arp unresolved 500

arp gratuitous-send interval

arp no

arp gratuitous-send interval *seconds*

no arp gratuitous-send

<i>seconds</i>	ARP <1-3600>

ARP

ARP

SVI 1

ARP

Ruijie(config)# interface vlan 1

Ruijie(config-if)# arp gratuitous-send interval 1

SVI 1

ARP

Ruijie(config)# interface vlan 1

Ruijie(config-if)# no arp gratuitous-send

arp timeout

ARP ARP
no

arp timeout *seconds*

no arp timeout

<i>seconds</i>	0-2147483

3600

ARP IP MAC ARP
ARP ARP ARP
ARP

FastEthernet 0/1 ARP

120

interface fastEthernet 0/1
arp timeout 120

clear arp-cache	ARP
show interface	

ip proxy-arp

no ARP ip proxy-arp
ARP

ip proxy-arp

no ip proxy-arp

10.2 3

ARP

IP ARP
IP MAC

ARP

ARP

service trustedarp

config
service trustedarp

s32

ip directed-broadcast

IP ip
directed-broadcast no
ip directed-broadcast [*access-list-number*]
no ip directed-broadcast

--	--

```
interface fastEthernet 0/1
ip directed-broadcast
```

IP

IP

- clear arp-cache
- show arp
- show arp counter
- show arp timeout
- clear ip route
- show ip arp
- show ip interface

clear arp-cache

ARP

ARP

IP

clear arp-cache

clear arp-cache [*A.B.C.D*] | **interface** *interface-name*

ARP

RNFP(Ruijie Network Foundation Protection,)

clear arp mac (IP) ARP
1s
ARP

ARP

clear arp-cache

ARP 1.1.1.1

clear arp-cache 1.1.1.1

```

arpa VLAN 1
Internet 192.168.195.65 0 0018.8b7b.713e
arpa VLAN 1
Internet 192.168.195.64 0 0018.8b7b.9106
arpa VLAN 1
Internet 192.168.195.63 0 001a.a0b5.3990
arpa VLAN 1
Internet 192.168.195.62 0 001a.a0b5.0b25
arpa VLAN 1
Internet 192.168.195.5 -- 00d0.f822.33b1
arpa VLAN 1

```

ARP

Protocol	Internet
Address	IP
Age (min)	ARP “_”
Hardware	IP
Type	ARPA
Interface	IP

show arp 192.168.195.68

```

Ruijie# show arp 192.168.195.68
Protocol Address Age(min) Hardware Type
Interface
Internet 192.168.195.68 1 0013.20a5.7a5f arpa
VLAN 1

```

show arp 192.168.195.0 255.255.255.0

```

Ruijie# show arp 192.168.195.0 255.255.255.0
Protocol Address Age(min) Hardware Type
Interface
Internet 192.168.195.64 0 0018.8b7b.9106 arpa
VLAN 1
Internet 192.168.195.2 1 00d0.f8ff.f00e arpa
VLAN 1
Internet 192.168.195.5 -- 00d0.f822.33b1 arpa
VLAN 1
Internet 192.168.195.1 0 00d0.f8a6.5af7 arpa
VLAN 1
Internet 192.168.195.51 1 0018.8b82.8691 arpa

```

VLAN 1

show arp 001a.a0b5.378d

Ruijie# **show arp 001a.a0b5.378d**

Protocol	Address	Age(min)	Hardware	Type
Interface				
Internet	192.168.195.67	4	001a.a0b5.378d	arpa
VLAN 1				

show arp counter

ARP

arp

show arp counter

show arp counter

Ruijie# **show arp counter**

The Arp Entry counter:0

The Unresolve Arp Entry:0

ARP

show arp timeout

ARP

show arp timeout

show arp timeout

Ruijie# **show arp timeout**

Interface	arp timeout(sec)
-----------	------------------

VLAN 1	3600
--------	------

ARP

clear ip route

IP IP

clear ip route

clear ip route { * | *networ** | *f..P8pIU1D*

show ip arp

ARP

show ip arp

show ip arp

Ruijie# **show ip arp**

Protocol	Address	Age(min)	Hardware	Type
Internet	192.168.7.233	23	0007.e9d9.0488	ARPA
FastEthernet	0/0			
Internet	192.168.7.112	10	0050.eb08.6617	ARPA
FastEthernet	0/0			
Internet	192.168.7.79	12	00d0.f808.3d5c	ARPA
FastEthernet	0/0			

	"_"
Hardware	IP
Type	ARPA
Interface	IP

show ip interface

IP

show ip interface [*interface-type interface-number*]

<i>Interface-type</i>	
<i>Interface-number</i>	

RGOS
RGOS
RGOS

“ UP ”

“ UP ”

show ip interface

IP address is:
192.168.5.133/24 (primary)
IP address negotiate is: OFF
Forward direct-boardcast is: ON
ICMP mask reply is: ON
Send ICMP redirect is: ON
Send ICMP unreachableled is: ON
DHCP relay is: OFF
Fast switch is: ON
Route horizontal-split is: ON
Help address is: 0.0.0.0
Proxy ARP is: ON
Outgoing access list is not set.
Inbound access list is not set.

IP interface state is:	"UP"
IP interface type is:	
IP interface MTU is:	MTU
IP address is:	IP
IP address negotiate is:	IP
Forward direct-boardcast is:	
ICMP mask reply is:	ICMP
Send ICMP redirect is:	ICMP
Send ICMP unreachableled is:	ICMP
DHCP relay is:	DHCP
Fast switch is:	IP
Route horizontal-split is:	
Help address is:	helper IP
Proxy ARP is:	ARP
Outgoing access list is	
Inbound access list is	

show ip redirects

show ip redirects

show ip redirects

Ruijie# **show ip redirects**
Default Gateway: 192.168.195.1

ip default-gateway	

IP

IP

IP

- **ip default-gateway**
- **ip mask-reply**
- **ip mtu**
- **ip redirects**
- **ip source-route**
- **ip unreachable**

ip default-gateway

ip default-gateway

no

ip default-gateway

no ip default-gateway

show ip redirects

192.168.1.1

ip default-gateway 192.168.1.1

show ip redirects	

ip mask-reply

RGOS

ICMP
ip mask-reply

ICMP

no ip mtu

<i>bytes</i>	IP 68~1500

mtu

IP IP MTU RGOS
 IP MTU
 mtu IP MTU
 MTU IP MTU
MTU

FastEthernet 0/1 IP MTU 512

```
interface fastEthernet 0/1
ip mtu 512
```

mtu	

ip redirects

RGOS ICMP ip
redirects no ICMP
ip redirects
no ip redirects

IP

ICMP

RGOS

Ó ħ Ñ

IP

no ip source-route

ip unreachable

RGOS	ICMP		ip
unreachables	no	ICMP	
ip unreachable			
no ip unreachable			

RGOS

ICMP

RGOS
ICMP

ICMP

FastEthernet 0/1

ICMP

interface fastEthernet 0/1
no ip unreachable

DHCP

DHCP

DHCP

- bootfile
- client-identifier
- client-name
- default-router
- dns-server
- domain-name
- hardware-address
- host
- ip address dhcp
- ip dhcp excluded-address
- ip dhcp ping packet
- ip dhcp ping timeout
- ip dhcp pool
- lease
- netbios-name-server
- netbios-node-type
- network DHCPn 0s AED Td.002os-node-type
 - lea2_1 1 Tf0 Tc 0 Tw -2.011 -1.731 Td<007A>Tj/TT0 1 Tf0.749 0 Td()Tj/TT

<i>file-name</i>	

DHCP

DHCP

DHCP

DHCP

TFTP

next-server

router.conf

bootfile router.conf

ip dhcp pool	DHCP DHCP
next-server	DHCP IP

client-identifier

DHCP

DHCP

client-identifier**no****client-identifier** *unique-identifier***no client-identifier**

<i>unique-identifier</i>	DHCP 0100.d0f8.2233.b467.6967.6162.6974.4574.686 5.726e.6574.302f.31

DHCP

	DHCP	DHCP	IP	MAC
0/1	MAC	00d0.f822.33b4		GigabitEthernet

<i>client-name</i>	DHCP ASCII river DHCP river.i-net.com.cn

DHCP

DHCP

DHCP

DHCP

DHCP DHCP DHCP
DHCP IP

192.168.12.1

default-router 192.168.12.1

ip dhcp pool	DHCP DHCP

dns-server

DHCP DNS DHCP
dns-server **no** DNS
dns-server { *ip-address* [*ip-address2...ip-address8*] |
use-dhcp-client *interface-type interface-number* }
no dns-server

<i>ip-address</i>	DNS IP
<i>ip-address2...ip-address8</i>	8 DNS
use-dhcp-client <i>interface-type</i> <i>interface-number</i>	RGOS DHCP DNS DHCP DNS

DNS

DHCP

DNS
DNS

DHCP
DNS

RGOS

DHCP
DHCP

DNS

DHCP

DNS

192.168.12.3

dns-server 192.168.12.3

domain-name	DHCP
ip address dhcp	DHCP IP
ip dhcp pool	DHCP DHCP

e

DHCP
no

DHCP
no

domain-name

DHCP

i-net.com.cn

domain-name i-net.com.cn

dns-server	DHCP DNS
ip dhcp pool	DHCP DHCP

hardware-address

DHCP

DHCP

hardware-address no**hardware-address** *hardware-address type***no hardware-address**

<i>hardware-address</i>	DHCP MAC
<i>type</i>	DHCP ✧ ethernet ✧ ieee802 ✧ 1 10M ethernet ✧ 6 IEEE 802

ethernet

DHCP

DHCP

ethernet MAC 00d0.f838.bf3d

hardware-address 00d0.f838.bf3d

client-identifier	DHCP
host	IP DHCP
ip dhcp pool	DHCP DHCP

host

DHCP IP DHCP
host no DHCP IP

host *ip-address* [*netmask*]

no host

<i>ip-address</i>	DHCP IP
<i>netmask</i>	DHCP

IP

DHCP

IP

A

0Tr 0.011 0 Td()1Tc4.171 0 Td<02D7>Tj/TT0 1 Tf10 Td5(B)Tj/C2_0 1 Tf0.92 0 Td[<324F0D

```
IP 192.168.12.91
255.255.255.240
host 192.168.12.91 255.255.255.240
```

client-identifier	DHCP
hardware-address	DHCP
ip dhcp pool	DHCP DHCP

ip address dhcp

```
PPP HDLC FR DHCP IP
ip address dhcp no
```

```
ip address dhcp
no ip address dhcp
```

```
DHCP IP
```

```
RGOS DHCP IP DHCP
1 DHCP 1 2 DHCP
3 3 DHCP 6 DNS
4 DHCP 15 DHCP 44 WINS
RGOS PPP FR HDLC dhcp
```

```
FastEthernet 0 IP
interface fastEthernet 0
ip address dhcp
```


dns-server	DHCP DNS
ip dhcp pool	DHCP DHCP

ip dhcp excluded-address

IP

DHCP

DHCP

network DHCP	DHCP
--------------	------

ip dhcp ping packet

DHCP	ping
ip dhcp ping packet	no

ip dhcp ping packet [*number*]

no ip dhcp ping packet

--	--

no lease

<i>days</i>	
<i>hours</i>	
<i>minutes</i>	
infinite	

DHCP

DHCP

DHCP

DHCP

1

no netbios-name-server



ip-address

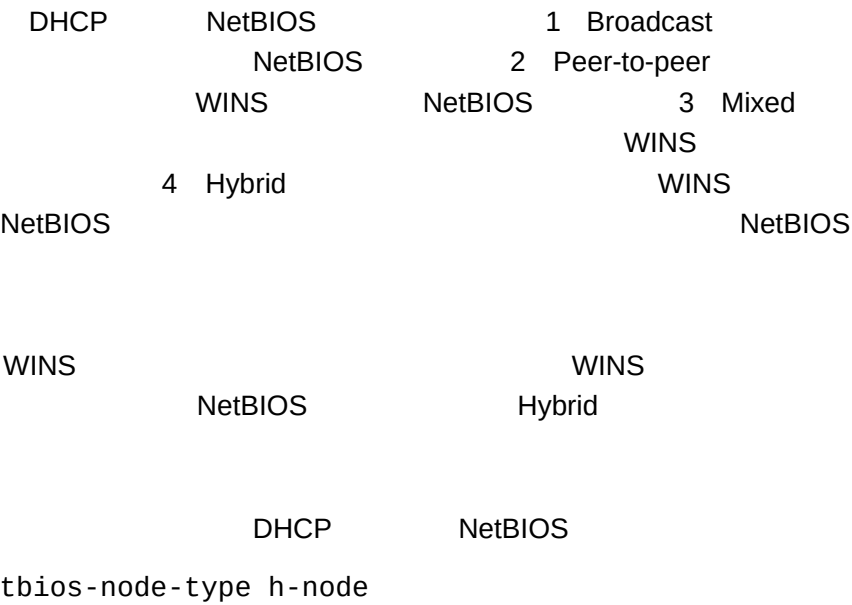
WINS

IP

type	NetBIOS	
	0~FF	
	✧ 1	b-node
	✧ 2	p-node
	✧ 4	m-node
	✧ 8	h-node
	✧	b-node
	✧	p-node
	✧	m-node
	✧	h-node

NetBIOS

DHCP



ip dhcp pool	DHCP	DHCP
netbios-name-server	WINS	NETBIOS

next-server

DHCP

DHCP

next-server**no****next-server** *ip-address* [*ip-address2...ip-address8*]**no next-server**

<i>ip-address</i>	IP TFTP
<i>ip-address2...ip-address8</i>	8

DHCP

DHCP

DHCP

192.168.12.4

next-server 192.168.12.4

bootfile	DHCP
ip dhcp pool	DHCP DHCP
ip help-address	Helper
option	RGOS DHCP

option

DHCP DHCP option

no option

option *code* { **ascii** *string* | **hex** *string* | **ip** *ip-address* }

no option

<i>code</i>	DHCP
ascii <i>string</i>	ASCII
hex <i>string</i>	
ip <i>ip-address</i>	IP

DHCP TCP/IP

DHCP option 312 option

DHCP DHCP

DHCP option RFC 2131

19 DHCP

IP 0 IP 1 IP

DHCP IP

option 19 hex 1

33 DHCP

DHCP 1

172.16.12.0 192.168.12.12 2 172.16.16.0

192.168.12.16

option 33 ip 172.16.12.0 192.168.12.12 172.16.16.0

192.168.12.16

ip dhcp pool	DHCP DHCP

service dhcp

dhcpDHCPnoDHCPservice

service dhcp

no service dhcp

DHCP

DHCPDHCPIPDNSDHCPDHCPDHCPDHCPDHCP

DHCP

- clear ip dhcp binding
- clear ip dhcp conflict
- debug ip dhcp client
- debug ip dhcp server
- clear ip dhcp server statistics
- show dhcp lease
- show ip dhcp binding
- show ip dhcp conflict
- show ip dhcp server statistics

clear ip dhcp binding

DHCP

clear ip dhcp binding

clear ip dhcp binding { * | *ip-address* }

*	DHCP
<i>ip-address</i>	IP

dhcp pool DHCP DHCP no ip

IP 192.168.12.100 DHCP
clear ip dhcp binding 192.168.12.100

--	--

show ip dhcp binding

DHCP

clear ip dhcp conflict

DHCP

clear ip dhcp conflict

clear ip dhcp conflict { * | *ip-address* }

*	DCHP
<i>ip-address</i>	IP

DHCP

ARP

ping

DHCP

clear ip dhcp conflict

clear ip dhcp conflict *

|--|--|

ip dhcp ping packets

DHCP

IP

clear ip dhcp server statistics

DHCP

DHCP
DHCP

clear

ip dhcp server statistics

DHCP

clear ip dhcp server statistics

show ip dhcp server statistics	DHCP

debug ip dhcp client

DHCP Client

debug ip dhcp client

debug ip dhcp client

no debug ip dhcp client

dhcp client

dhcp

debug ip dhcp client

debug ip dhcp server

DHCP Server

debug ip dhcp server

debug ip dhcp server

no debug ip dhcp server

dhcp server

dhcp

debug ip dhcp server

show dhcp lease

DHCP

EXEC

show dhcp lease

show dhcp lease

IP
IP

IP

show dhcp lease

Ruijie# **show dhcp lease**

Temp IP addr: 192.168.5.71 for peer on Interface:
FastEthernet0/0

Temp sub net mask: 255.255.255.0

2.[(Gse)T: 6 Tsecs, R6()enewal: 3 Tsecs, Rebind195 Twsecs

show ip dhcp bindingRuijie# **show ip dhcp binding**

IP address	Client-Id/ Hardware address	Lease expiration	Type
192.168.1.2	00d0.f866.4777	IDLE	Manual

IP address	DHCP	IP
Client-Id/ Hardware address	DHCP	client identifier
Lease expiration	IDLE	Infinite DHCP
Type	Manual	Automatic

clear ip dhcp binding	DHCP

show ip dhcp conflict

DHCP

EXEC

show ip dhcp conflict**show ip dhcp conflict**

DHCP

show ip dhcp conflict

```
Ruijie# show ip dhcp conflict
IP address      Detection Method
192.168.12.1    Ping
```

```
dhcpd excluded ipaddress
192.168.12.100
```

IP address	DHCP IP
Detection Method	
dhcpd excluded ipaddress	

clear ip dhcp confict	DHCP

show ip dhcp server statistics

```
          DHCP                               EXEC    show ip dhcp
server statistics
show ip dhcp server statistics
```

DHCP

show ip dhcp server statistics

```
Ruijie# show ip dhcp server statistics
```

Address pools	4
Automatic bindings	4
Manual bindings	0
Expired bindings	0
Malformed messages	2

Message	Received
BOOTREQUEST	216
DHCPDISCOVER	33
DHCPREQUEST	25
DHCPDECLINE	0
DHCPRELEASE	1
DHCPINFORM	150

Message	Sent
BOOTREPLY	16
DHCPOFFER	9
DHCPACK	7
DHCPNAK	0

Address pools	
Automatic bindings	
Manual bindings	
Expired bindings	
Malformed messages	DHCP
Message Received or Sent	DHCP

clear ip dhcp server statistics	DHCP

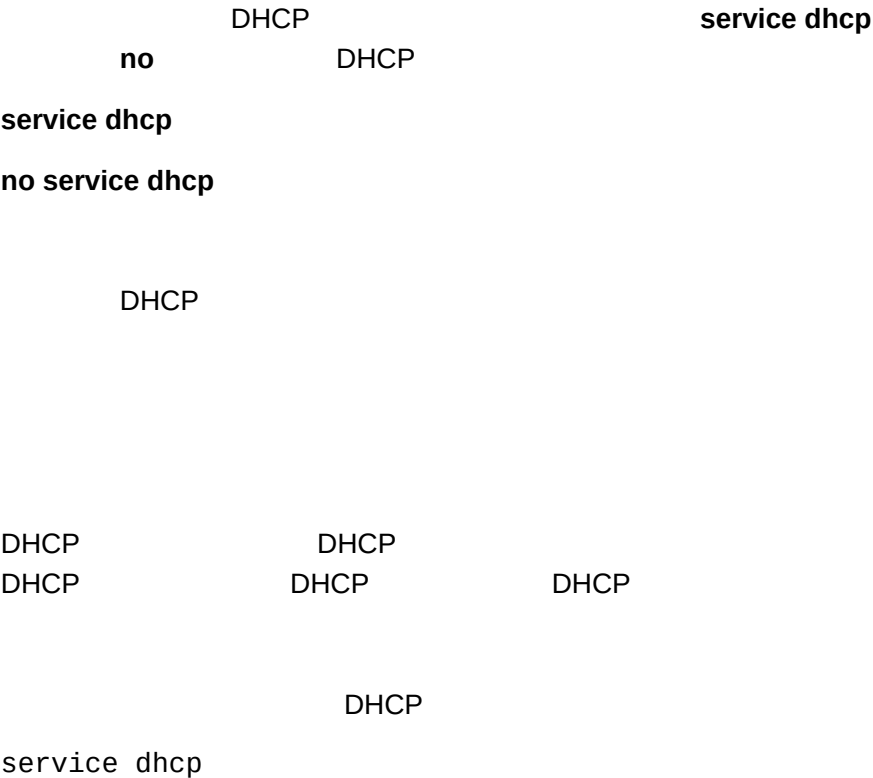
DHCP Relay

DHCP Relay

DHCP

- service dhcp
- ip helper-address

service dhcp



ip helper-address [vrf] <i>A.B.C.D</i>	DHCP server

ip helper-address

DHCP no

DHCP

/

dhcp DHCP

vrf

vrf

vrf

vrf

vrf

vrf

61.154.26.49 vrf local 192.168.197.1

ip helper-address 61.154.26.49
ip helper-address vrf local 192.168.197.1

service dhcp	DHCP

ip dhcp relay information option dot1x

dhcp option dot1x no
dhcp option dot1x

DHCP relay

802.1x

Ip dhcp relay information option dot1x

service dhcp	DHCP
ip dhcp relay information option dot1x access-group	option dot1x acl

ip dhcp relay information option dot1x access-group

dhcp option dot1x acl no
dhcp option dot1x acl

ACL

ACL ACE

Ip dhcp relay information option dot1x access-group
acl-name

service dhcp	DHCP
ip dhcp relay information option dot1x	DHCP option dot1x

ip dhcp relay information option82

no ip dhcp relay information option82
ip dhcp relay information option82

option dot1x

Ip dhcp relay information option82

Service dhcp	DHCP
ip dhcp relay information option dot1x	DHCP option dot1x

ip dhcp relay check server-id

no ip dhcp relay check *server-id*
ip dhcp relay information check *server-id*

server-id option DHCP REQUEST
server

Ip dhcp relay check server-id

Service dhcp	DHCP

ip dhcp relay suppression

DHCP DHCP no
 DHCP relay

DHCP request relay

1 relay

```
Ruijie#  
Ruijie# configure terminal  
Ruijie(config)# interface fastEthernet 0/1  
Ruijie(config-if)# ip dhcp relay suppression  
Ruijie(config-if)# exit  
Ruijie(config)#
```

service dhcp	DHCP

DNS

ip domain-lookup

DNS

no

DNS

ip domain-lookup

no ip domain-lookup

DNS

DNS

DNS

DNS

Ruijie(config)# **ip domain-lookup**

no

ip name-server *ip-address*

no ip name-server [*ip-address*]

<i>ip-address</i>	IP

DNS Server IP

✓ i

v

<i>host-name</i>	
<i>ip-address</i>	IP

no ip host host-name ip-address

Ruijie(config)# **ip host switch 192.168.5.243**

show hosts	DNS

RGOS10.1

clear host

clear host [*host-name*]

<i>host-name</i>	“*”

DNS

1

ip host
DNS

2

NTP

NTP

NTP

- no ntp
- ntp authenticate
- ntp authentication-key
- ntp disable
- ntp server
- ntp synchronize
- ntp trusted-key

no ntp

ntp

ntp

no ntp

NTP

NTP
NTP

NTP

NTP

NTP

no ntp

ntp server	NTP

ntp authenticate

NTP NTP

ntp authenticate

no ntp authenticate

NTP

ntp authentication-key ntp trusted-key

```
ntp authentication-key 6 md5 woooooop
ntp trusted-key 6
ntp authenticate
```

ntp authentication-key	
ntp trusted-key	

ntp authentication-key

NTP

NTP

ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]**no ntp authentication-key** *key-id* **md5** *key-string* [*enc-type*]

<i>key-id</i>	ID
<i>key-string</i>	
<i>enc-type</i>	7 0

md5
ntp trusted-key *key-id* *key-id*

1024

ID 6

ntp authentication-key 6 md5 woooooop

ntp authenticate	
ntp trusted-key	

ntp server

NTP

ntp disable

NTP

ntp disable

NTP

NTP

<i>version</i>	NTP 1-3 NTPv3
<i>if-name</i>	NTP
<i>keyid</i>	
prefer	Prefer

NTP

W ' ' 7

NTP

8

NTP

Ntp synchronize

ntp server	NTP

ntp trusted-key

ID

ntp trusted-key *key-id***no ntp trusted-key** *key-id*

<i>key-id</i>	ID

NTP

ID

```
ntp authentication-key 6 md5 woooooop  
ntp trusted-key 6  
ntp server 192.168.210.222 key 6
```

NTP

debug ntp

show ntp status

NTP

show ntp status

NTP

NTP

NTP

show ntp status

UDP-Helper

udp-helper enable

udp-helper enable	UDP	no
udp-helper enable	UDP	
UDP		
udp-helper enable		
no udp-helper enable		

ip helper-address

UDP

no

UDP

ip helper-address *address***no ip helper-address** *address*

<i>address</i>	UDP 20

UDP

20

UDP-Helper

UDP

no ip helper-address

UDP

:

Ruijie(config-if)# **ip helper-address** *192.168.100.1*

ip forward-protocol	UDP

RGOS10.1

udp-helper enable	UDP
ip forward-protocol	UDP

RGOS10.1

SNMP

SNMP

- **no snmp-server**
- **show snmp**
- **snmp-server chassis-id**
- **snmp-server community**
- **snmp-server contact**
- **snmp-server enable traps**
- **snmp-server host**
- **snmp-server location**
- **snmp-server packetsize**
- **snmp-server queue-length**
- **snmp-server system-shutdown**
- **snmp-server trap-source**
- **snmp-server trap-timeout**

no snmp-server

SNMP

no snmp-server

no snmp-server

SNMP

SNMP

SNMP

Ruijie(config)# **no snmp-server**

snmp-server chassis-id

	SNMP		snmp-server
chassis-id	no		
snmp-server chassis-id <i>text</i>			
no snmp-server chassis-id			
text			

ro NMS MIB
rw NMS MIB
number 0-99
MIB NMS
ipaddr NMS MIB NMS

SNMP
MIB NMS
SNMP **no snmp-server**

MIB 192.168.12.1
NMS MIB
Ruijie(config)# **access-list 2 permit 192.168.12.1**
Ruijie(config)# **access-list 2 deny any**
Ruijie(config)# **snmp-server community public ro 2**

access-list	

snmp-server contact

SNMP **snmp-server**
contact no SNMP
snmp-server contact text
no snmp-server contact

text

SNMP

i-net800@i-net.com.cn

```
Ruijie(config)# snmp-server contact i-net800@i-net.com.cn
```

show snmp-server	SNMP
no snmp-server	SNMP

snmp-server enable traps

SNMP

NMS

Trap

snmp-server enable traps

no

SNMP

NMS

Trap

snmp-server enable traps [snmp]**no snmp-server enable traps**

snmp

SNMP

snmp-server

SNMP

```
Ruijie(config)# snmp-server enable traps snmp
Ruijie(config)# snmp-server host 192.168.12.219 public
snmp
```

snmp-server host	SNMP

snmp-server host

snmp-server host *host-addr* **traps** *[vrf vrfname]* *[version {1 | 2c | 3*
[auth | noauth | priv]] community-string [udp-port
port-num][notification-type]

no snmp-server host *host-addr*

host-addr SNMP

vrfname vrf **0ÜÐ** snmp V1 V2C V3

auth | noauth | priv V3

SNMP

SNMP

```
Ruijie(config)# snmp-server host 192.168.12.219 public  
snmp
```

snmp-server enable traps	

snmp-server location

SNMP

snmp-server

```
location no SNMP
```

```
snmp-server location text
```

```
no snmp-server location
```

```
text
```

```
Ruijie(config)# snmp-server location net-technology-c  
ity 4F of A Buliding
```

snmp-sever contact	SNMP

snmp-server packetsize

```
location 2048
```

```
snmp-servesnmp-8
```

no snmp-server packetsize

byte-count 484 17876

1500

SNMP

1492

Ruijie(config)# **snmp-server packetsize 1492**

snmp-server queue-length	SNMP

snmp-server queue-length

snmp-server

queue-length

snmp-server queue-length *length*

length 1 1000

10

Ruijie(config)# **snmp-server queue-length 4**



snmp-server packetsize

SNMP

SNMP

IP

IP

SNMP

0 IP

SNMP

```
Ruijie(config)# snmp-server trap-source fastethernet 0
```

snmp-server enable traps	
snmp-server enable host	NMS

snmp-server trap-timeout

snmp-server**trap-timeout** no**snmp-server trap-timeout** *seconds***no snmp-server trap-timeout***seconds*

30

60

```
Ruijie(config)# snmp-server trap-timeout 60
```

snmp-server queue-length	

show snmp user	SNMP

snmp-server group

SNMP
no

snmp-server group

```
snmp-server group groupname {v1 | v2c | v3 {auth | noauth | priv}}
[read readview][write writeview] [access {num | name}]

no snmp-server group groupname {v1 | v2c | v3 }
```

$v1 \mid v2c \mid v3$ SNMP

auth v3

noauth v3

priv v3

readview

writeview

```
Ruijie(config)# snmp-server group mib2user v3 priv read
mib2
```

show snmp group	SNMP

snmp-server view

SNMP
no

snmp-server view

snmp-server view *view-name oid-tree {include | exclude}*

no872135423p-server vieww

show snmp	SNMP	
show snmp mib		snmp mib
show snmp user	snmp	
show snmp view	snmp	
show snmp group	snmp	

SNMP

```
Ruijie# show snmp
Chassis: 60FF60
0 SNMP packets input
0 Bad SNMP version errors
0 Unknown community name
0 Illegal operation for community name supplied
0 Encoding errors
0 Number of requested variables
0 Number of altered variables
0 Get-request PDUs
0 Get-next PDUs
0 Set-request PDUs
0 SNMP packets output
0 Too big errors (Maximum packet size 1500)
0 No such name errors
0 Bad values errors
0 General errors
0 Response PDUs
0 Trap PDUs
SNMP global trap: disabled
SNMP logging: disabled
SNMP agent: enabled
```

snmp-server chassis-id	SNMP

RMON

RMON

- **rmon collection stats** *index* [**owner** *owner-string*]
- **rmon collection history** *index* [**owner** *owner-string*] [**buckets** *bucket-number*] [**interval** *seconds*]
- **rmon alarm** *number variable interval* {**absolute** | **delta** }
rising-threshold *value* [**when** *on* | *off*] [**enable** *enable*] [**bucket** *bucket-number*]
- 9Td -0.026329 TdTw icTc 1s1.5 on colTc 0.2228 Tw 3.726 0 Tj/12z 9Td -0.0 Tw 1.yz 9Td -0.0

rmon alarm

MIB

no

rmon alarm *number variable interval {absolute | delta}*
rising-threshold *value [event-number]* **falling-threshold** *value*
[event-number] [owner ownername]
no rmon alarm *number*

RGOS

variable	interval	absolute/delta	owner	interval
rising-threadhold/falling-threadhold			event	

MIB

ifInNUcastPkts.6

Ruijie(config)# **rmon alarm** *10 1.3.6.1.2.1.2.2.1.12.6 30*
delta rising-threshold *20 1* **falling-threshold** *10 1* **owner**
zhangsan



trap

```
Ruijie(config)# rmon event 1 log trap rmon description
"ifInNUcastPkts is too much " owner zhangsan
```

--	--

```
rmon alarm number variable interval
{absolute | delta } rising-threshold value
[event-number] falling-threshold value
[event-number] [owner ownername]
```

```

Octets : 1884085
Pkts : 3096
BroadcastPkts : 161
MulticastPkts : 97
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 1200
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan

```

rmon collection stats <i>index</i> [owner owner-string]	

show rmon history

```
show rmon history
```

Buckets requested : 65535
Buckets granted : 10
Interval : 1
Owner : zhangsan
Sample : 198
Interval start : 0d:0h:15m:0s
DropEvents : 0
Octets : 67988
Pkts : 726
BroadcastPkts : 502
MulticastPkts : 189
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 0
Fragments : 0
Jabbers : 0
Collisions : 0
Utilization : 0



```

Event : 1
Description : firstevent
Event type : log-and-trap
Community : public
Last time sent : 0d:0h:0m:0s
Owner : zhangsan
Log : 1
Log time : 0d:0h:37m:47s
Log description : ipttl
Log : 2
Log time : 0d:0h:38m:56s
Log description : ipttl
    
```

rmon alarm <i>number variable</i> <i>interval {absolute delta }</i> rising-threshold <i>value</i> <i>[event-number]</i> falling-threshold <i>value [event-number] [owner</i> <i>ownername]</i>	

show rmon event

```
show rmon event
```

```

Ruijie# show rmon event
Alarm : 1
Interval : 1
Variable : 1.3.6.1.2.1.4.2.0
Sample type : absolute
    
```

Last value : 64
Startup alarm : 3
Rising threshold : 10
Falling threshold : 22
Rising event : 0
Falling event : 0
Owner : zhangsan

rmon event <i>number</i> [log] [trap <i>community</i>] [<i>description-string</i>]	

RIP

address-family RIP

RIP

```
address-family
no
address-family ipv4 vrf vrf-name
no address-family ipv4 vrf vrf-name
```

vrf vrf-name	VRF

RIP

```
address-family
(config-router-af)#
VRF    RIP
VRF    RIP
```

```
exit-address-family    exit
```

```
vpn1    VRF    vrf
RIP
Ruijie(config)#
```

```
Ruijie(config-if)# ip vrf forwarding vpn1
Ruijie(config-if)# ip address 192.168.1.1
255.255.255.0
Ruijie(config)# router rip
Ruijie(config-router)# address-family ipv4 vrf vpn1
Ruijie(config-router)# network 192.168.1.0
Ruijie(config-router)# exit-address-family
```

exit-address-family	
ip vrf	VRF

auto-summary (RIP)

RIP
no

auto-summary

auto-summary

no auto-summary

RIP

RIPv1 RIPv2

RIP



RIP

- RIP
-

RIPv1

RIPv2

RIPv2

```
Ruijie(config)# router rip
Ruijie(config-router)# version 2
Ruijie(config-router)# no auto-summary
```

version	RIP v1 v2 v1&v2

default-metric (RIP)

RIP

default-metric

no

default-metric *metric***no default-metric**

<i>metric</i>	16 16 metric 16 RGOS

1

redistribute

RIP

RIP
RIP default-metric
default-metric
1

RIP

OSPF

RIP

Ruijie(config)# **router rip** Ruijie(co
Ruijie(config-router

redistribute

r

default-information originate(RIP)

RIP

no

default-informatio

default-information originate no default-information originate

RIP

Ruijie(config-rout

distance

RIP
no

distance

distance *distance* [*ip-address wildcard*]

no distance [*distance ip-address wildcard*]

<i>distance</i>	RIP <1-255>
<i>ip-address</i>	IP
<i>wildcard</i>	IP

120

RIP

RIP

RIP

RIP

160,

192.168.12.1

123

Ruijie(config)# **router rip**

Ruijie(config-router)# **distance 160**

Ruijie(config-router)# **distance 123 192.168.12.1**
0.0.0.0

istribute-list in RIP

istribute-list in no

istribute-list {[*access-list-number* | *name*] | **prefix** *prefix-list-name*
[**gateway** *prefix-list-name*]} **in** [*interface-type interface-number*]

no istribute-list {[*access-list-number* | *name*] | **prefix** *prefix-list-name*
[**gateway** *prefix-list-name*]} **in** [*interface-type interface-number*]

<i>access-list-number</i>	
prefix <i>prefix-list-name</i>	
gateway <i>prefix-list-name</i>	
<i>interface-type interface-number</i>	()

RIP Fastethernet 0/0
172.16

```
Ruijie(config)# router rip
Ruijie(config-router)# network 200.168.23.0
Ruijie(config-router)# distribute-list 10 in
fastethernet 0/0
Ruijie(config-router)# no auto-summary
```

```
Ruijie(config)#access-list 10 permit 172.16.0.0  
0.0.255.255
```

access-list	
prefix-list	

RIP

192.168.12.0/24

```
Ruijie(config)# router rip
Ruijie(config-router)# network 200.4.4.0
Ruijie(config-router)# network 192.168.12.0
Ruijie(config-router)# distribute-list 10 out
Ruijie(config-router)# version 2
Ruijie(config)# access-list 10 permit 192.168.12.0
0.0.0.255
```

access-list	
prefix-list	
redistribute	

exit-address-family

exit-address-family

exit-address-family

no

exit

```
Ruijie(config-router)# address-family ipv4 vrf vpn1  
Ruijie(config-router-af)# exit-address-family
```

address-family	

ip rip authentication key-chain

```
                RIP                RIP                ip rip  
authentication key-chain                no  
ip rip authentication key-chain name-of-keychain  
no ip rip authentication key-chain
```

<i>name-of-keychain</i>	RIP

RIP

key chain

RIP

RIPv1

RIP

RIPv2

Serial 0

RIP

ripchain

```
Ruijie(config)# interface serial 0/0
```

```
Ruijie(config-if)# ip rip authentication key-chain  
ripchain
```

ip rip authentication mode	RIP

RIPv1

RIP

RIPv2

Serial 0

RIP

MD5

```
Ruijie(config)# interface serial 0/0
```

```
Ruijie(config-if)# ip rip authentication mode md5
```

ip rip authentication key-chain	RIP RIPv2 RIP
key chain	

ip rip receive enable

RIP
receive enable

no
RIP

ip rip
RIP

ip rip receive enable

no ip rip receive enable

RIP

no
default

RIP
RIP

Fastethernet 0/0

RIP


```
Ruijie(config)# interface fastethernet 0/0  
Ruijie(config-if)# no ip rip receive enable
```

ip rip send enable	RIP
passive-interface	RIP

ip rip receive version

RIP	RIP
ip rip receive version	no

version	RIP

ip rip send enable

RIP		RIP	ip rip
send enable	no	RIP	RIP

ip rip send enable

no ip rip send enable

RIP

	RIP
no default	RIP

Fastethernet 0/0 RIP

```
Ruijie(config)# interface fastethernet 0/0
Ruijie(config-if)# no ip rip send enable
```

ip rip receive enable	RIP
passive-interface	RIP

ip rip send version

RIP

ip rip receive version

RIP

no

ip rip send version [1] [2]**no ip rip send version**

1	RIPv1
2	RIPv2

version**vesion**

RIP

RIPv1 RIPv2
version

Fastethernet 0/0

RIPv1 RIPv2

Ruijie(config)# **interface fastethernet 0/0**Ruijie(config-if)# **ip rip send version 1 2**

version	RIP

ip rip v2-broadcast

RIP version 2

ip rip v2-broadcast

no

ip rip v2-broadcast

no ip rip v2-broadcast

version

vesion

RIP

RIPv1 RIPv2
version

Fastethernet 0/0

RIPv2

Ruijie(config)# **interface fastethernet 0/0**

Ruijie(config-if)# **ip rip v2-broadcast**

version	RIP

ip split-horizon (RIP)

RIP

ip split-horizon

no

RIP

ip split-horizon

no ip split-horizon

IP

X.25

IP

RIP

neighbor

show ip rip
RIP

Fastethernet 0/0

RIP

```
Ruijie(config)# interface fastethernet 0/0  
Ruijie(config-if)# no ip split-horizon
```

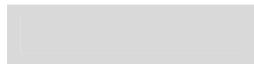
neighbor RIP	RIP IP
validate update source	RIP

ip summary-address rip

	RIP		ip
summary-address	rip	no	

ip summary-address rip *ip-address ip-network-mask*

no ip summary-address rip *ip-address ip-network-mask*



network (RIP)

RIP
network no
network *network-number*
no network *network-number*

<i>network-number</i>	IP RIP

network-number IP RGOS
172.16.16.1 172.16.0.0
RIPv2
IP
RIPv2
passive-interface
IP RIP
RIP RIP
RIP
Ruijie(config)# **router rip**
Ruijie(config-router)# **network 192.168.12.0**
Ruijie(config-router)# **network 172.16.0.0**

neighbor (RIP)

RIP IP neighbor
no
neighbor *ip-address*
no neighbor

<i>ip-address</i>	IP

RIPv1 IP 255.255.255.255 RIPv2
224.0.0.9
passive-interface
RIP
passive

offset-list(RIP)

RIP metric

offset-list no offset

offset-list access-list-number {*in* | *out*} *offset* [*interface-type*
interface-number]

no offset-list access-list-number {*in* | *out*} *offset* [*interface-type*
interface-number]

<i>access-list-number</i>	acl
<i>in</i>	acl metric
<i>out</i>	acl metric
<i>offset</i>	metric
<i>interface-type</i>	acl
<i>interface-number</i>	

offset

```

RIP
offset-list                      RIP
offset-list                      offset-list                      metric

acl 7                      RIP                      metric                      7
Ruijie(config-router)# offset-list 7 out 7

fastEthernet1/0                      acl 8
RIP                      metric                      7
Ruijie(config-router)# offset-list 7 in 7
Ruijie(config-router)# offset-list 8 in 7 fastEthernet
1/0

```

output-delay

RIP
output-delay no

output-delay *delay*

no output-delay

<i>delay</i>	<8-50>

RIP 512 25
25

output-delay

RIP 30
Ruijie(config)# **router rip**
Ruijie(config-router)# **output-delay 30**

passive-interface

passive-interface d

passive-interface {*default* | *interface-type interface-num*}

no passive-interface {*default* | *interface-type interface-num*}

redistribute RIP

redistribute

no

redistribute {**bgp** | **isis** [*process-name*] | **ospf** <1-65535> | **connected** | **static**}[*metric value*] [**route-map** *route-map-name*] [**match internal** | **external type** | **nssa-external type**]

no redistribute {**bgp** | **isis** [*process-name*] | **ospf** <1-65535> | **connected** | **static**}[*metric value*] [**route-map** *route-map-name*] [**match internal** | **external type** | **nssa-external type**]

<i>bgp isis ospf connected static</i>	
<i>metric</i>	metric
<i>route-map</i>	
<i>match</i>	ospf
<i>process-name</i>	ISIS
<1-65535>	OSPF

OSPF

ISIS

level-2

metric 1

route-map

RIP

OSPF

isis

level

level-2

level

level 1, level 2

level-1-2

ospf

match

ospf

match

match

no

match

RIP

Ruijie(config-router)# **redistribute static**

default-metric <i>metric</i>	

router rip

RIP

router rip

no

RIP

router rip**no router rip**

RIP

RIP

async default routing

RIP

RIP

RIP

RIP

RIP

RIP
RIP

IP

RIP

RIPv1 RIPv2

RIPv1

RIP
ip rip send version

ip rip receive version
RIP

RIP 2

Ruijie(config)# **router rip**
Ruijie(config-router)# **version 2**

ip rip receive version	RIP RIP
ip rip send version	RIP RIP
show ip rip	rip

show ip rip

RIP **show ip rip**

show ip rip [*vrf vrf-name*]

vrf vrf-name	VRF RIP

RIP			
rip	rip	metric	distance
VRF	VRF	VRF-id	

RIP

```
Ruijie# show ip rip
Routing Protocol is "rip"
Sending updates every 10 seconds, next due in 4 seconds
Invalid after 20 seconds, flushed after 10 seconds
Outgoing update filter list for all interface is: not set
Incoming update filter list for all interface is: not set
Default redistribution metric is 2
Redistributing: connected
Default version control: send version 2, receive version 2
Interface          Send  Recv  Key-chain
FastEthernet 1/1    2     2     ripkey1
FastEthernet 1/0    2     2     ripkey2
Routing for Networks:
192.168.26.0
192.168.64.0
Distance: (default is 50)
```

vrf RIP

```
Ruijie(config-router)# sh ip rip vrf 1
VRF 1 VRF-id:1
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 4 seconds
Invalid after 180 seconds, flushed after 120 seconds
Outgoing update filter list for all interface is: not set
Incoming update filter list for all interface is: not set
```

Default redistribution metric is 1
Redistributing:
Default version control: send version 1, receive any version
Routing for Networks:
Distance: (default is 120)

show ip rip database

RIP

show ip rip database**show ip rip database** [**vrf** *vrf-name*] [*network-number* {*network-mask*}]

vrf <i>vrf-name</i>	VRF RIP
<i>network-number</i>	
<i>network-mask</i>	

X 0


```
Ruijie# show ip rip external connected
Protocol connected route:
[connected] 1.0.0.0/8 metric=0
nhop=0.0.0.0, if=2
[connected] 3.0.0.0/8 metric=0
nhop=0.0.0.0, if=16391
[connected] 4.4.0.0/16 metric=0
nhop=0.0.0.0, if=16388
[connected] 5.0.0.0/8 metric=0
nhop=0.0.0.0, if=16386
[connected] 192.168.195.0/24 metric=0
nhop=0.0.0.0, if=1
```

show ip rip	

show ip rip interface

RIP

show ip rip interface

show ip rip interface [vrf vrf-name]

VRF vrf-name	VRF RIP

RIP

```
Ruijie# show ip rip interface
FastEthernet 1/1 is down, line protocol is down
```

RIP is not enabled on this interface
FastEthernet 1/0 is up, line protocol is up
Routing Protocol: RIP
Receive RIPv2 packets only
Send RIPv2 packets only
Passive interface: Disabled
Split horizon: Enabled
V2 Broadcast: Disabled
Multicast registe: Registered
Interface Summary Rip:
Not Configured
IP interface address:
192.168.64.100/24

show ip rip	

istribute-list in

istribute-list in no

istribute-list {[*access-list-number* | *name*] | **prefix** *prefix-list-name*
[**gateway** *prefix-list-name*]} **in** [*interface-type* *interface-number*]

no istribute-list {[*access-list-number* | *name*] | **prefix** *prefix-list-name*
[**gateway** *prefix-list-name*]} **in** [*interface-type* *interface-number*]

<i>access-list-number</i>	
prefix <i>prefix-list-name</i>	
gateway <i>prefix-list-name</i>	
<i>interface-type</i> <i>interface-number</i>	()

OSPF

OSPF

RIP Fastethernet 0/0
172.16

```
router rip
network 200.168.23.0
distribute-list 10 in fastethernet 0/0
no auto-summary
access-list 10 permit 172.16.0.0 0.0.255.255
```

OSPF
OSPF

RIP

192.168.12.0/24

```
router rip
network 200.4.4.0
network 192.168.12.0
distribute-list 10 out
version 2
access-list 10 permit 192.168.12.0
```

access-list	
prefix-list	
redistribute	

ip default-network

default-network

“*”

connected

192.168.100.0

```
ip route 192.168.100.0 255.255.255.0 serial 0/1
ip default-network 192.168.100.0
```

200.200.200.0

200.200.200.0

```
ip default-network 200.200.200.0
```

show ip route	IP

ip prefix-list

ip prefix-list

no

```
ip prefix-list prefix-lis-name [ seq seq-number ] { deny | permit }
ip-prefix [ge minimum-prefix-length][ le maximum-prefix-length]
no ip prefix-list prefix-lis-name [ seq seq-number ] { deny | permit }
ip-prefix [ge minimum-prefix-length][ le maximum-prefix-length]
```

prefix-lis-name	

1 2147483647

seq-number

5

```
Ruijie(config)# ip prefix-list pre1 permit 201.1.1.0/24  
Ruijie(config)# router ospf  
Ruijie(config-router)# distribute-list prefix pre1 out  
rip  
Ruijie(config-router)# end
```

ip prefix-list description

```
no ip prefix-list description  
ip prefix-list prefix-lis-name description descripton-text
```

		OSPF	RIP
	IP		IP
(	IP	201.1.1.0/24	)

```
Ruijie# configure terminal
Ruijie(config)# ip prefix-list pre description Deny
routes from Net-A hp poutes
```

disable/enable	
----------------	--

```

1
OSPF 110
125 OSPF
vrf vrf
1 show ip route weight
weight WCMP
WCMP 32
WCMP

ip
route 0.0.0.0 0.0.0.0 Fastethernet 0/0
Fastethernet 0/0
ARP CPU

172.16.100.0/24
192.168.12.1 115
ip route 172.16.100.0 255.255.255.0 192.168.12.1 115

172.16.100.0/24 fastethernet 0/0

ip route 172.16.100.0 255.255.255.0 fastethernet 0/0
192.168.12.1

```



<i>number</i>	1-10000

1000

ip static

route-limit

show running config

900

ip static route-limit 900

ipv6 prefix-list

IPv6

ipv6

prefix-list

no

ipv6 prefix-list *prefix-lis-name* [**seq** *seq-number*] { **deny** | **permit** }
ipv6-prefix [**ge** *minimum-prefix-length*] [**le** *maximum-prefix-length*]

no ipv6 prefix-list *prefix-lis-name* [**seq** *seq-number*] { **deny** | **permit** }
ipv6-prefix [**ge** *minimum-prefix-length*] [**le** *maximum-prefix-length*]

<i>prefix-lis-name</i>	
<i>seq-number</i>	1 2147483647 5 5

deny

ipv6 prefix-list description

IPv6
description no ipv6 prefix-list
ipv6 prefix-list *prefix-lis-name* **description** *descripton-text*

<i>prefix-lis-name</i>	IPv6

```

                                OSPF          RIP
                                IP             IP
                                ( IP 201.1.1.0/24 )

```

```

Ruijie# configure terminal
Ruijie(config)# ipv6 prefix-list pre description Deny
routes from Net-A

```

match as-path

```

                                AS_PATH
match as-path                no
match as-path as-path-acl-list-num as-path-acl-list-num.....
no match as-path as-path-acl-list-num.....

```

as-path-acl-list-num	1...500

match as-path

```

                                1          match          1
                                set          match          set

```

```

route-map ROUTEMAP2IBGP
match as-path 20 30

```

--	--

match community	
match metric	
match origin	
set as-path prepend	AS_PATH
set metric	
set metric-type	

match community

COMMUNITY

match community

no

match community {*standard-list-number* | *expanded-list-number* | *community-list-name*} [**exact-match**] [{*standard-list-number* | *expanded-list-number* | *community-list-name*} [**exact-match**] ...]

no match community {*standard-list-number* | *expanded-list-number* | *community-list-name*} [**exact-match**] [{*standard-list-number* | *expanded-list-number* | *community-list-name*} [**exact-match**] ...]

<i>standard-list-number</i>	1...99
<i>expanded-list-number r</i>	100...199

communitys-list-name

	1		
set	match	match	1 set

```
ip community-list 1 permit 100:2 100:30
route-map set_lopref
match community 1 exact-match
set local-preference 20
```

match as-path	AS_PATH

match interface

OSPF

RIP

RIP

OSPF

route maps

set

match

1

match

1
set

0y

Ó \$ í T

0y

p

0y

match ip address

match ip address

no

match ip address {

```

          OSPF          RIP
      10  RIP      OSPF
    type-1      40

router ospf
redistribute rip subnets route-map redrip
network 192.168.12.0 0.0.0.255 area 0

access-list 10 permit 200.168.23.0

route-map redrip permit 10
match ip address 10
set metric 40
set metric-type type-1

```

access-list	
match interface	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match ip next-hop

IP

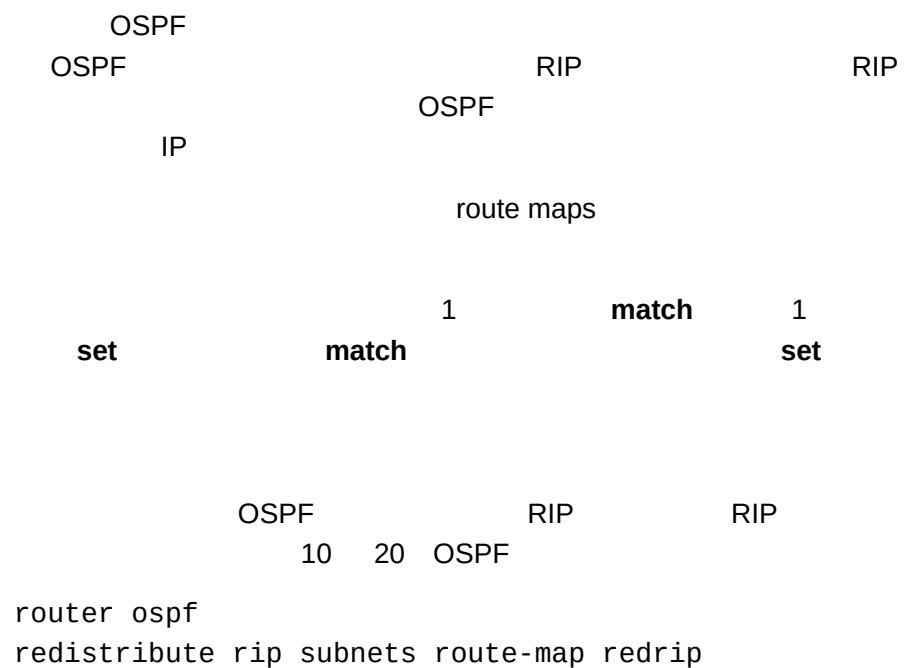
match ip next-hop **no**

match ip next-hop {*access-list-number* [*access-list-number...* |
access-list-name...] | *access-list-name* [*access-list-number...* |
access-list-name] | **prefix-list** *prefix-list-name* [*prefix-list-name...*]}

no match ip next-hop {*access-list-number* [*access-list-number...* |
access-list-name...] | *access-list-name* [*access-list-number...* |
access-list-name] | **prefix-list** *prefix-list-name* [*prefix-list-name...*]}

<i>access-list-number</i>	
<i>access-list-name</i>	
prefix-list <i>prefix-list-name</i>	

match ip next-hop



```
access-list 10 permit 192.168.100.1
access-list 20 permit 172.16.10.1
```

```
route-map redrip permit 10
match ip next-hop 10 20
```

access-list	
match ip address	
match interface	
match ip route-source	
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match ip route-source

IP
match ip route-source **no**

match ip route-source {*access-list-number* [*access-list-number...* |
access-list-name...] | *access-list-name* [*access-list-number...* |
access-list-name] | **prefix-list** *prefix-list-name* [*prefix-list-name...*]}

no match ip route-source {*access-list-number* [*access-list-number...* |
access-list-name...] | *access-list-name* [*access-list-number...* |
access-list-name] | **prefix-list** *prefix-list-name* [*prefix-list-name...*]}

--	--	--

access-list-number

match interface	
match ip next-hop	
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match ipv6 address

match ipv6 address	IPv6 no
--------------------	------------

```

set match 1 match 1
set match 1 set

```

```

type-1 10 OSPF 40 OSPF RIP
ipv6 router ospf
redistribute rip subnets route-map redrip

ipv6 access-list v6acl
10 permit ipv6 2620::/64 any

route-map redrip permit 10
match ipv6 address v6acl
set metric 30

```

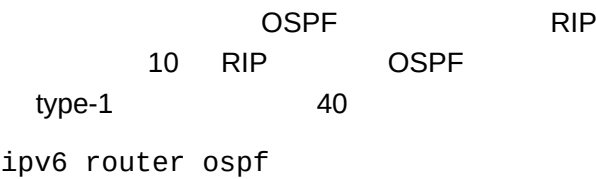
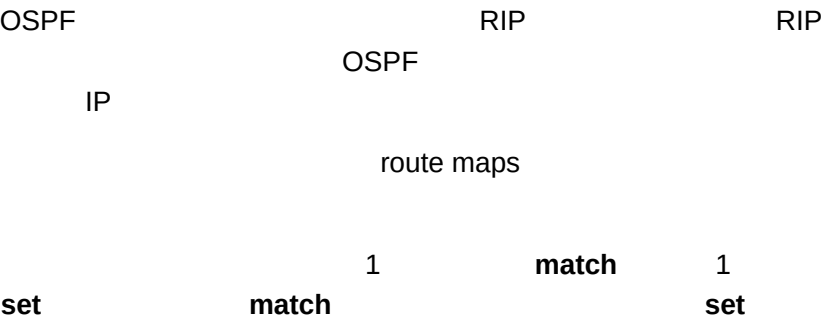
ipv6 access-list	IPv6
match interface	
match ipv6 next-hop	IPv6
match ipv6 route-source	IPv6
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match ipv6 next-hop

IPv6
match ipv6 address no

match ipv6 next-hop { access-list-name | prefix-list prefix-list-name }
no match ipv6 next-hop

access-list-name	
prefix-list prefix-list-name	IPv6



```
redistribute rip subnets route-map redrip
```

```
ipv6 access-list v6acl  
10 permit ipv6 2720::/64 any
```

```
route-map redrip permit 10  
match ipv6 next-hop v6acl  
set metric 40
```

ipv6 access-list	IPv6
match interface	
match ipv6 address	IPv6
match ipv6 route-source	IPv6
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match ipv6 route-source

IPv6

match ipv6 address **no**

```
match ipv6 route-source { access-list-name | prefix-list  
prefix-list-name }
```

no match ipv6 route-source

--	--

<i>access-list-name</i>	
-------------------------	--

prefix-list

match interface	
match ipv6 address	IPv6
match ipv6 route-source	IPv6
match metric	
match route-type	
match tag	
set metric	
set metric-type	
set tag	

match length

IP match
 length no
match length *min-length max-length*
no match length *min-length max-length*

<i>min-length</i>	IP
<i>max-length</i>	IP

Metric	0-4294967295
--------	--------------

```

router ospf
 redistribute rip subnets route-map redist-rip
 network 192.168.12.0 0.0.0.255 area 0

route-map redist-rip permit 10
 match metric 10

```

```
router ospf
redistribute rip subnets route-map redist-rip
network 192.168.12.0 0.0.0.255 area 0

route-map redist-rip permit 10
match metric 10
```

access-list	
match ip address	
match interface	
match ip next-hop	
match ip route-source	
match route-type	
match tag	

set metric	
set metric-type	
set tag	

match origin

origin no match
 match origin {egp | igp | incomplete}
 no match origin {egp | igp | incomplete}

egp	EGP
igp	IGP
Incomplete	

```

route-map MY_MAP 10 permit
match origin egp
set community 109
  
```

```

route-map MAP20 20 permit
match origin incomplete
set community no-export
  
```

match as-path	AS_PATH
match metric	
match origin	
set as-path prepend	AS_PATH
set metric	
set origin	

match route-type

no match route-type

match route-type {local | internal | external [type-1 | type-2] | level-1 | level-2}

no match route-type {local | internal | external [type-1 | type-2] | level-1 | level-2}

local	
Internal	OSPF
external	(BGP OSPF)
type-1 type-2	OSPF 1 2
level-1 level-2	ISIS 1 2

OSPF

RIP

RIP

```

      OSPF
    IP
      route maps
        1 match 1
    set match set
```

RTd<041F4BC82C5842D7>86<0Ftch

match tag

match tag no

match tag *tag [...tag]*
no match tag *tag [...tag]*

<i>tag</i>	

match tag tag

OSPF RIP RIP

 OSPF

 IP

config

show running

10

maximum-paths 10
no maximum-paths

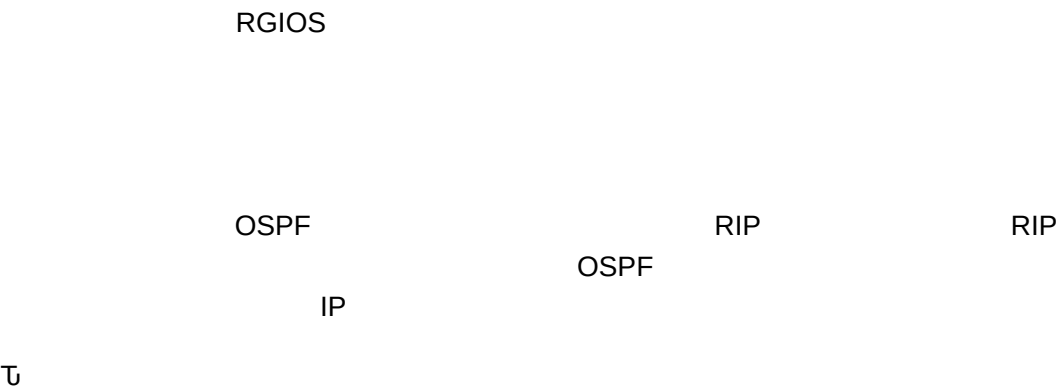
route-map

route-map

no

route-map *route-map-name* [**permit** | **deny**] [*sequence-number*]
no route-map *route-map-name* [**permit** | **deny**] [*sequence-number*]

<i>route-map-name</i>	
permit	match permit set set permit match set
deny	match deny deny match set
<i>sequence-number</i>	



Redistribute	

set aggregator as

match AS
set aggregator as no

set aggregator as *as-num ip_addr*

no set aggregator as [*as-num ip_addr*]

<i>as-number</i>	AS
<i>ip_addr</i>	

BGP

as,ip-addr

route-map set-as-path
 match as-path 1
 set aggregator as 3 2.2.2.2

match as-path	AS_PATH
match community	

match metric	
match origin	
set community	COMMUNITY
set metric	
set metric-type	

set as-path prepend

match AS_PATH
set as-path prepend no

set as-path prepend *as-number*
no set as-path prepend [*as-number*]

match metric	
match origin	
set community	COMMUNITY
set metric	
set metric-type	

set comm-list delete

match COMMUNITY_LIST
community set comm-list delete
no

set comm-list *community-list-number* | *community-list-name* **delete**
no comm-list *community-list-number* | *community-list-name* **delete**

<i>community-list-number</i>	
<i>community-list-name</i>	

```
router bgp 100
neighbor 172.16.233.33 remote-as 120
neighbor 172.16.233.33 route-map ROUTEMAPIN in
neighbor 172.16.233.33 route-map ROUTEMAPOUT out

ip community-list 500 permit 100:10
ip community-list 500 permit 100:20

ip community-list 120 deny 100:50
ip community-list 120 permit 100:.*
```

```
route-map ROUTEMAPIN permit 10
set comm-list 500 delete
```

```
route-map ROUTEMAPOUT permit 10
set comm-list 120 delete
```

match as-path	AS_PATH
match metric	
match origin	
set as-path prepend	AS_PATH
set local-preference	
set metric-type	

set community

```
match          COMMUNITY
set community  no
```

```
set community {community-number[community-number ...] additive |
none}
```

```
no set community { community-number[community-number ...]
additive | none}
```

<i>community-number</i>	AA NN internet local-AS no-export no-advertise
additive	community
none	

```

route-map SET_COMMUNITY 10 permit
match as-path 1
set community 109:10
route-map SET_COMMUNITY 20 permit
match as-path 2
set community no-export

```

match as-path	AS_PATH
match community	
match metric	
match origin	
set as-path prepend	AS_PATH
set origin	
set metric-type	

set dampening

```

match
dampening no set

```

```

set dampening half-life reuse suppress max-suppress-time
no set dampening

```

half-life	1..45() 15

<i>reuse</i>	1..20000 750
<i>suppress</i>	1..20000 2000
<i>max-suppress-time</i>	1..255() 4* half-life

```

route-map tag
match as path 10
set dampening 30 1500 10000 120

```

```

router bgp 100
neighbor 172.16.233.52 route-map tag in

```

match as-path	AS_PATH
match community	
match metric	
match origin	
set as-path prepend	AS_PATH
set metric	
set local-preference	

set extcommunity

match

set as-path prepend	AS_PATH
set metric	
set metric-type	

set ip default next-hop

match IP
set ip next-hop no

set ip default next-hop ip-address [weight] [...ip-address [weight]]
no set ip default next-hop ip-address [weight] [...ip-address [weight]]

ip-address	IP
weight	

set WCMP WCMP weight
WCMP
set ip default next-hop IP 32
ip address weight 4
nexthop
next-hop weight set
WCMP WCMP weight
weight nexthop weight
1
set ip next-hop set ip default next-hop
set ip next-hop set ip
default next-hop

(nexthop)

1

set

1 1.1.1.1
 6.6.6.6 2.2.2.2
 7.7.7.7

```
access-list 1 permit ip 1.1.1.1 0.0.0.0
access-list 2 permit ip 2.2.2.2 0.0.0.0
```

```
interface async 1
ip policy route-map equal-access
```

```
route-map equal-access permit 10
match ip address 1
set ip default next-hop 6.6.6.6
route-map equal-access permit 20
match ip address 2
set ip default next-hop 7.7.7.7
route-map equal-access permit 30
set default interface null0
```

route-map	
match ip address	
set default interface	
set default interface	
set interface	

set ip next-hop

IP

set ip precedence

IP

set ip dscp

dscp **match** **no** **set ip dscp**
set ip dscp **no set ip dscp**

DSCP

set ip

dscp_value

DSCP

route-map

match ip address

set default interface

set default interface

set interface

set ip default next-hop

IP

set ip precedence

IP

set ip next-hop

match IP
set ip next-hop no

set ip next-hop ip-address [weight] [...ip-address [weight]]
no set ip next-hop ip-address [weight] [...ip-address [weight]]

ip-address	IP
weight	

set WCMP WCMP weight
WCMP
set ip next-hop IP 32
ip address weight 4
nexthop
next-hop weight set
WCMP WCMP weight
weight nexthop weight
1
match

set

serial 1/0

10.0.0.0/8	192.168.100.1
172.16.0.0/16	172.16.100.1

```
interface serial 1/0
ip policy route-map load-balance
```

```
access-list 10 permit 10.0.0.0 0.255.255.255
access-list 20 permit 172.16.0.0 0.0.255.255
```

```
route-map load-balance permit 10
match ip address 10
set ip next-hop 192.168.100.1
```

```
route-map load-balance permit 20
match ip address 20
set ip next-hop 172.16.100.1
```

```
route-map load-balance permit 30
set interface Null0
```

route-map	
match ip address	

set ip next-hop verify-availability

IP
next-hop verify-availability no set ip

set ip next-hop verify-availability *ip-address* track *track-object-num*
no set ip next-hop *ip-address* [*weight*] [...*ip-address* [*weight*]]

<i>ip-address</i>	IP
<i>track-object-num</i>	

serial 1/0
10.0.0.0/8 192.168.100.1
172.16.0.0/16 172.16.100.1

```
interface serial 1/0
ip policy route-map load-balance
```

```
access-list 10 permit 10.0.0.0 0.255.255.255
access-list 20 permit 172.16.0.0 0.0.255.255
```

```
route-map load-balance permit 10
match ip address 10
set ip next-hop 192.168.100.1
```

```
route-map load-balance permit 20
match ip address 20
```

```
set ip next-hop 172.16.100.1  
  
route-map load-balance permit 30  
set interface Null0
```



set ip precedence

IP

```
fastEthernet 0/0
192.168.217.68 precedence 4
access-list 1 permit 192.168.217.68 0.0.0.0
route-map name
match ip address 1
set ip precedence 4
interface fa0/0
ip policy route-map name
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric-type	
set tag	
set ip tos	IP tos

set ip tos

```
match IP TOS,
set ip tos no tos
set ip tos {<0-15> | max-reliability | max-throughput | min-delay
| min-monetary-cost | normal }
no set ip tos {<0-15> | max-reliability | max-throughput | min-delay
| min-monetary-cost | normal }
```

IP	TOS	IP
	IP	TOS

```
fastEthernet 0/0
192.168.217.68      tos 4
access-list 1 permit 192.168.217.68 0.0.0.0
route-map name
match ip address 1
set ip tos 4
interface fa 0/0
ip policy route-map name
```

match interface	
match ip address	
match ip next-hop	

set level {level 1| level 2 | level 1-2 | stub-area | backbone}
no set level

OSPF RIP backbone

```
router ospf
redistribute rip subnets route-map redrip
network 192.168.12.0 0.0.0.255 area 0

route-map redrip permit 10
set level backbone
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric-type	
set tag	

set local-preference

```
match                      LOCAL_PREFERENCE
set local-preference                      no

set local-preference number
no set local-preference
```

<i>number</i>	0-4294967295

local-preference

local-preference

```
route-map SET_PREF permit 10
match as-path 1
set local-preference 6800
```

```
route-map SET_PREF permit 20
match as-path 2
set local-preference 50
```

		AS_PATH
match metric		
match origin		
set as-path prepend	↑	↓

set metric [+

route maps

set **match** 1 **match** 1 **set**

 OSPF RIP
 type-1

```
router ospf
redistribute rip subnets route-map redrip
network 192.168.12.0 0.0.0.255 area 0
```

```
route-map redrip permit 10
set metric-type type-1
```

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	
match tag	
set metric	
set tag	

set next-hop

 match IP
set next-hop **no**

```
set next-hop ip-address
```

no set next-hop *ip-address*

<i>ip-address</i>	IP

OSPF

RIP

RIP

OSPF

IP

route maps

set

match

1

match

1
set

192.168.1.2

route-map redrip permit 10

match ip address 1

set next-hop 192.168.1.2

match interface	
match ip address	
match ip next-hop	
match ip route-source	
match metric	
match route-type	

match tag	
set metric-type	
set tag	

set origin

match
set origin no

set origin {egp | igp | incomplete}

no set origin

egp	EGP
igp	IGP
Incomplete	

```
route-map SET_ORIGIN 10 permit
match as-path 1
set origin igp
route-map SET_ORIGIN 20 permit
match as-path 2
set origin egp
```

--	--

match as-path	AS_PATH
match metric	
match origin	
set as-path prepend	AS_PATH
set metric	
set local-preference	

set originator-id

```

match
set originator-id          no

set originator-id ip-addr
no originator-id [ip-addr]
```

<i>ip-addr</i>	

```

route-map SET_ORIGIN 10 permit
match as-path 1
set originator-id 5.5.5.5
route-map SET_ORIGIN 20 permit
match as-path 2
set originator-id 5.5.5.6
```

--	--

match as-path	AS_PATH
match metric	
match origin	

```
Ruijie# show ip prefix-list
ip prefix-list pre: 2 entries
seq 5 permit 192.168.64.0/24
seq 10 permit 192.2.2.0/24
```

show ip route

IP

show ip route

show ip route *[[vrf vrf_name] [network [mask] | count | protocol
[process-id] | weight]]*

vrf <i>vrf_name</i>	VRF
<i>network</i>	
<i>mask</i>	

show ip route

Ruijie# show ip route

Codes: C - connected, S - static, R - RIP, B - BGP
O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2
- IS-IS level-2
ia - IS-IS inter area, * - candidate default

Gateway of last resort is no set

S 20.0.0.0/8 is directly connected, VLAN 1

S 22.0.0.0/8 [1/0] via 20.0.0.1

O E2 30.0.0.0/8 [110/20] via 192.1.1.1, 00:00:06, VLAN
1

R 40.0.0.0/8 [120/20] via 192.1.1.2, 00:00:23, VLAN
1

B 50.0.0.0/8 [120/0] via 192.1.1.3, 00:00:41

C 192.1.1.0/24 is directly connected, VLAN 1

C 192.1.1.254/32 is local host.

show ip route

O	C S R RIP B BGP O OSPF i IS-IS
E2	E1 OSPF E2 OSPF N1 OSPF NSSA 1 N2 OSPF NSSA 2 IA OSPF su IS-IS L1 IS-IS 1 L2 IS-IS 2 ia IS-IS

20.0.0.0/8	
------------	--

[1/0]

prefix-name	IPv6

IPv6

```
Ruijie# show ipv6 prefix-list  
ipv6 prefix-list p6: 2 entries  
permit 13::/20  
permit 14::/20
```

show storm-control

GigabitEthernet 1/1
4M

```
Ruijie# configure terminal  
Ruijie(config)# interface GigabitEthernet 1/1  
Ruijie(config-if)# storm-control multicast 4096  
Ruijie(config-if)# end
```

--	--

show storm-control

3

show interfaces

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport protected
```

show interfaces	

S32 S37

acl

switchport port-security

no

```
switchport port-security [violation {protect | restrict | shutdown}]
no switchport port-security [violation]
```

port-security	
violation protect	
violation restrict	trap
violation shutdown	Trap

IP()
)

MAC
(

1

M

Gigabitethernet 1/1
shutdown

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport port-security
Ruijie(config-if)# switchport port-security
violation shutdown
```

show port-security	

s witchport port-security aging

no

no switchport port-security aging
time **no switchport**
port-security aging static

show port-security

Ruijie(config)# **interface gigabitethernet 1/1**
Ruijie(config-if)# **switchport port-security aging time**
8
Ruijie(config-if)# **switchport port-security aging**
static

show port-security	

switchport port-security mac-address

no

switchport port-security [mac-address *mac-address* [ip-address
ip-address]] | [maximum *value*]

no switchport port-security [mac-address *mac-address*] |
[maximum]

--	--

[illegible]

Arp-check

Arp

arp

Ruijie(config-if)# **arp-check**

show port-security	

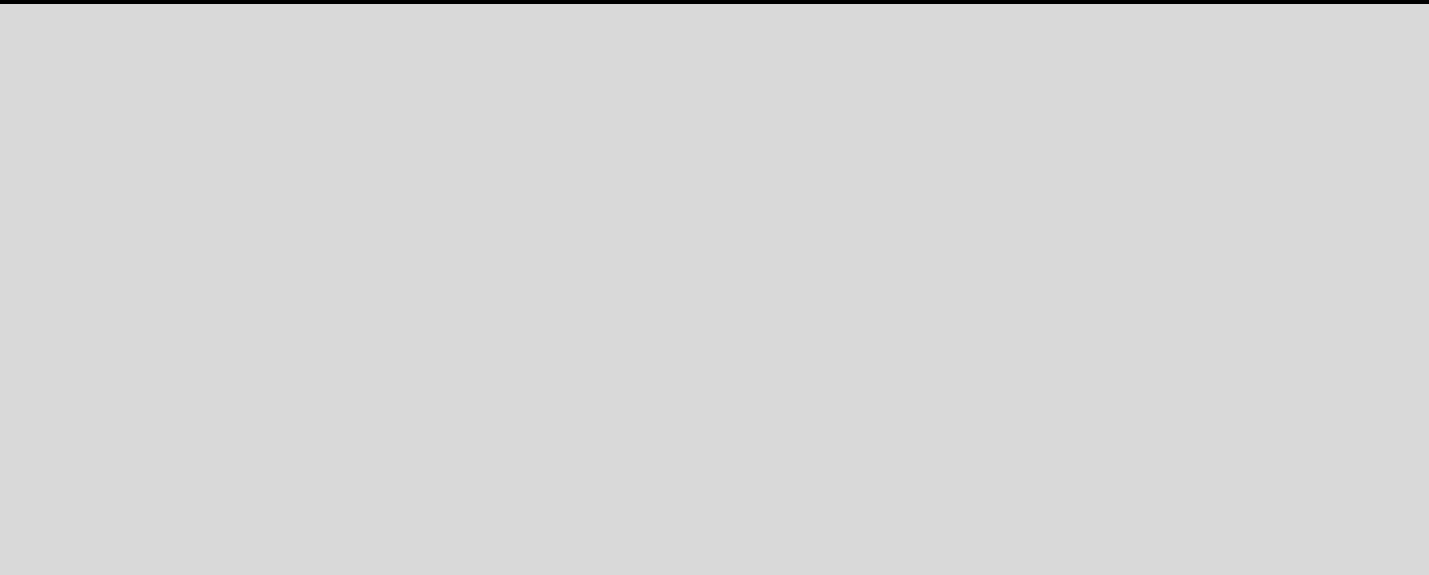
- **show storm-control**
- **show port-security**

show storm-control

show storm-control [*interface-id*]

<i>interface-id</i>	

Ruijie# **show storm-control gigabitethernet 1/1**
Interface Broadcast Control Multicast Control Unicast
Control



```
switchport port-security  
mac-address
```


show dot1x auto-req	
---------------------	--

dot1x auto-req req-interval

no

dot1x auto-req req-interval *interval*

no dot1x auto-req req-interval

interval

s

30

show dot1x auto-req

802.1x

60s

Ruijie# **configure terminal**

Ruijie(config)# **dot1x auto-req req-interval 60**

Ruijie(config)# **end**

Ruijie# **show dot1x auto-req**

Auto-Req: Enabled

User-Detect : Enabled

Packet-Num : 0

Req-Interval: 60 Second

show dot1x auto-req	
---------------------	--

dot1x auto-req user-detect

- dot1x timeout server-timeout
- dot1x timeout supp-timeout
- dot1x timeout tx-period

dot1x timeout quiet-period

no

dot1x timeout quiet-period *seconds*

no dot1x timeout quiet-period

seconds

0 65535 s

10

show dot1x

1000s

Ruijie# **configure terminal**

Supplicant Timeout: 3 sec
Server Timeout: 5 sec
Re-authen Max: 3 times
Maximum Request: 3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable: Disabled
Authorization Mode: Group Server

show dot1x	802.1x

dot1x timeout server-timeout

no

dot1x timeout server-timeout *seconds*

no dot1x timeout server-timeout

seconds

1

65535

5

show dot1x 802.1x

10s

Ruijie# **configure terminal**

Ruijie(config)# **dot1x timeout server-timeout 10**

Ruijie(config)# **end**

Ruijie# **show dot1x**

802.1X Status: Enabled

Authentication Mode: EAP-MD5

Authed User Number: 0
Re-authen Enabled: Disabled
Re-authen Period: 1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period: 3 sec
Supplicant Timeout: 3 sec
Server Timeout: 10 sec
Re-authen Max: 3 times
Maximum Request: 3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable: Disabled
Authorization Mode: Group Server



```
802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Disabled
Re-authen Period:   1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period:    3 sec
Supplicant Timeout: 10 sec
Server Timeout:     10 sec
Re-authen Max:      3 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable:   Disabled
Authorization Mode:  Group Server
```

show dot1x	802.1x

dot1x timeout tx-period *seconds*
no dot1x timeout tx-period

3

10s

```
Ruijie# configure terminal
Ruijie(config)# dot1x timeout tx-period 10
Ruijie(config)# end
Ruijie# show dot1x
```

```
802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Disabled
Re-authen Period:   1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period:    10 sec
Supplicant Timeout: 10 sec
Server Timeout:     10 sec
Re-authen Max:      3 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable:   Disabled
Authorization Mode:  Group Server
```

show dot1x

802.1x

```
Ruijie# configure terminal  
Ruijie(config)# dot1x re-authentication  
Ruijie(config)# end  
Ruijie# show dot1x
```

802.1X Status: cz9-0.1029o7Csled-0.10

czo7Csle cd0
cc0
cec0

cz9-0.10293n

upps: 9DisCsl ced0
ced0
cd0

dot1x reauth-max *count*
no dot1x reauth-max

count

3

show dot1x 802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x reauth-max 5
Ruijie(config)# end
Ruijie# show dot1x
```

```
802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Enabled
Re-authen Period:   1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period:    10 sec
Supplicant Timeout: 10 sec
Server Timeout:     10 sec
Re-authen Max:      5 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable:   Disabled
```

dot1x

- dot1x probe-timer
- dot1x client-probe enable

dot1x probe-timer

dot1x probe-timer{interval | alive}*interval*
no dot1x probe-timer

no

interval hello

alive

interval

Hello 20
 250

show dot1x 802.1x

hello 30 , 120

```
Ruijie# configure terminal
Ruijie(config)# dot1x probe-timer interval 30
Ruijie(config)# dot1x probe-timer alive 120
Ruijie(config)# end
Ruijie# show dot1x probe-timer

Hello Interval: 30 Seconds
Hello Alive: 120 Seconds
```


Show dot1x probe-timer	

dot1x client-probe enable

[no] dot1x client-probe enable

```
Ruijie# configure terminal
Ruijie(config)# dot1x client-probe enable
Ruijie(config)# end
Ruijie# show dot1x
```

```
802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Enabled
Re-authen Period:   1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period:    10 sec
Supplicant Timeout: 10 sec
Server Timeout:     10 sec
Re-authen Max:      5 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Enabled
```

Eapol Tag Enable: Disabled
Authorization Mode: Group Server

show dot1x	dot1x

dot1x

dot1x

- dot1x authentication
- dot1x auth-address-table
- dot1x auth-mode
- dot1x default
- dot1x dynamic-vlan enable
- dot1x eapol-tag
- dot1x max-req
- dot1x private-supPLICant-only
- dot1x port-control auto
- dot1x port-control-mode
- dot1x stationarity enable

dot1x authentication

AAA

AAA

no

dot1x authentication {default | *list-name*}

no dot1x authentication {default | *list-name*}

default

list-name

AAA

}

{

1

F


```
Ruijie# configure terminal  
Ruijie(config)# dot1x auth-address-table address  
00d0f8000000 interface ethernet 1/1  
Ruijie(config)# end  
Ruijie#
```



show dot1x	802.1x

dot1x default

802.1x

dot1x default

show dot1x 802.1x

802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x default
Ruijie(config)# end
Ruijie# end
```

show dot1x	802.1x

dot1x dynamic-vlan enable

vlan

no

dot1x dynamic-vlan enable
no dot1x dynamic-vlan enable

802.1X tag

```
Ruijie# configure terminal
Ruijie(config)# dot1x eapol-tag
Ruijie(config)# end
Ruijie#
```

show dot1x	802.1x

dot1x max-req

DOT1X

DOT1X

DOT1X

no

dot1x max-req *count*

show dot1x	802.1x

dot1x private-supplicant-only

no

dot1x private-supplicant-only
no dot1x private-supplicant-only

show dot1x private-supplicant-only 802.1x

```
Ruijie# configure t
Ruijie(config)# dot1x private-supplicant-only
Ruijie(config)# end
Ruijie#
```

show dot1x private-supplicant-only	

dot1x port-control auto

no

dot1x port-control auto

no dot1x port-control

802.1x

show dot1x 802.1x

802.1x

```
Ruijie# configure terminal
Ruijie(config)# interface g0/1
Ruijie(config-if)# dot1x port-control auto
Ruijie(config-if)# end
Ruijie#
```

show dot1x	802.1x

dot1x port-control-mode

802.1x

MAC

dot1x port-control-mode {mac-based | port-based}
no dot1x port-control-mode

mac-based mac 802.1X

port-based 802.1X

mac-based


```
Ruijie# show dot1x
802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Disabled
Re-authen Period:   3600 sec
Quiet Timer Period: 10 sec
Tx Timer Period:     3 sec
Supplicant Timeout: 3 sec
Server Timeout:      5 sec
Re-authen Max:        3 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:    Group Server
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x auth-address-table

802.1X

show dot1x auth-address-table*[address mac-addr][interface interface]*

mac-addr

interface

```
Ruijie# show dot1x auth-address-table
interface:g3/1
-----
mac addr: 00D0.F800.0001
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	

dot1x timeout quiet-period

dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x auto-req

802.1x

show dot1x auto-req

Ruijie# **show dot1x auto-req**

Auto-Req: Disabled
User-Detect : Enabled
Packet-Num : 0
Req-Interval: 30 Seconds
Ruijie#

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	

dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	

dot1x timeout supp-timeout

dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	

dot1x reauth-max	
dot1x re-authentication	A5B0GA5B0GAx AÄ
dot1x timeout quiet-period	A5B0GA5B0GAx AÄ1Ä
dot1x timeout re-authperiod	A5B0GA5B0GAx AÄhÄ
dot1x timeout server-timeout	
dot1x timeout supp-timeout	A5B0GA5B0GAx CÄ
dot1x timeout tx-period	A5B0GA5B0GAx <Ä

show dot1x port-control

/ – äAxA•,X0Ä · Ä

show dot1x port-control [interface *interface*]

ÄDAÄ

interfaceÄx

Ä,Ä

Ä

QÄ

(MÄ

Ä*ÄÄ

Ä

ÄÄ

M6/_Ä

```
Ruijie# show dot1x port-control
interface dyn-user static-user max-user qos
ctrl-mode status
```

```
-----
-----
Gi0/1      0          1          6000      dscp: 0
mac-base Authed
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x probe-timer

show dot1x probe-timer

Ruijie# show dot1x probe-timer

Hello Interval: 20 Seconds
Hello Alive: 250 Seconds
Ruijie#

dot1x auth-mode	802.1x
dot1x max-req	

```
Ruijie# show dot1x re-authentication
reauth-enabled: disabled
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x reauth-max

show dot1x reauth-max

```
Ruijie# show dot1x reauth-max
reauth-max: 2 times
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	

dot1x timeout quiet-period

A'5B GAĖ5Ù Ô ûGj „

```
Ruijie# show dot1x summary
ID      MAC      Interface VLAN Auth-State
Backend-State Port-Status Type
-----
1 00d0f8000000 Gi0/1      1 Authenticated Idle
Authed      Static
Ruijie#
```

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x user id

802.1X

show dot1x user id <id>

id

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

AAA

- **aaa authentication dot1x**
- **aaa authentication enable**
- **aaa authentication login**
- **aaa authentication ppp**
- **login authentication**

aaa authentication dot1x

```
AAA      802.1X      aaa
authentication dot1x 802.1X      no
      802.1X
```

```
aaa authentication dot1x {default | list-name} method1 [method2...]
```

```
no aaa authentication dot1x {default | list-name}
```

```
default      802.1X
list-eult 802.1X
```

○

AAA 802.1X AAA 802.1X
aaa authentication dot1x
802.1X

rds_d1x AAA 802.1X
RADIUS RADIUS

Ruijie(config)# **aaa authentication dot1x rds_d1x group**
radius local

M6X/aa1WQ@

aaa authentication ppp {default | list-name} method1 [method2...]
no aaa authentication ppp {default | list-name}

default PPP

list-name PPP

method 4

local	
none	
group	RADIUS

AAA PPP AAA PPP
aaa authentication ppp
PPP

rds_ppp AAA PPP

AAA • Ý

- **aaa authorization commands**
- **aaa authorization config-commands**
- **aaa authorization console**
- **aaa authorization exec**
- **aaa authorization network**
- **authorization commands**
- **authorization exec**

aaa authorization commands

	NAS	CLI	AAA
		aaa authorization commands	no
AAA			
		aaa authorization commands <i>level</i> { default <i>list-name</i> } <i>method1</i> [<i>method2...</i>]	
		no aaa authorization commands <i>level</i> { default <i>list-name</i> }	
		<i>level</i>	0~15
		default	
		<i>list-name</i>	
		<i>method</i>	4



AAA

14

14

TACACS+ 15

Ruijie(config)# **aaa authorization commands 15 default group tacacs+**

aaa new-model	AAA
authorization commands	

aaa authorization config-commands

AAA

aaa authorization config-commands

no AAA

aaa authorization config-commands

no aaa authorization config-commands

ψ

no

Ruijie(config)# **aaa authorization config-commands**

aaa new-model	AAA
aaa authorization commands	AAA

aaa authorization console

AAA

aaa authorization console

no

AAA

aaa authorization console

no aaa authorization console

Ruijie(config)# **aaa authorization console**

aaa new-model	AAA
aaa authorization commands	AAA
authorization commands	

aaa authorization exec

AAA	NAS	CLI	Exec	
aaa authorization exec				no
AAA Exec				
aaa authorization exec {default list-name} method1 [				no

RADIUS

Exec

Ruijie(config)# **aaa authorization exec default group radius**

aaa new-model	AAA
authorization exec	
username	

aaa authorization network

AAA

PPP SLIP

aaa authorization network **no**

AAA

aaa authorization network {**default** | *list-name*} *method1* [*method2...*]

no aaa authorization network {**default** | *list-name*}

default

Network

method

4

none	
group	RADIUS

AAA Network

PPP SLIP

cmd 15
TACACS+ none
VTY 0 – 4

```
Ruijie(config)# aaa authorization commands 15 cmd group  
tacacs+ none  
Ruijie(config)# line vty 0 4  
Ruijie(config-line)# authorization commands 15 cmd
```

aaa new-model	AAA
aaa authorization commands	AAA

authorization exec

Exec
authorization exec no Exec
authorization exec {default | *list-name*}
no authorization exec

default Exec
list-name Exec

AAA Exec

Exec

AAA

Exec

Exec

Exec

exec-1 Exec

level 0~15

default

list-name

method 4

none	

group TACACS+

aaa accounting exec

NAS
aaa accounting exec no Exec

aaa accounting exec {default | list-name} start-stop method1
[method2...]

no aaa accounting exec {default | list-name}

default Exec

list-name Exec

method 4

none	
group	TACACS+ RADIUS

Exec
none Exec

NAS CLI
Start Stop
√ √

AAA

group radius



aaa new-model

AAA

aaa new model

Ruijie(config)# **aaa accounting network default start-stop group radius**

aaa new-model	AAA
aaa authorization network	AAA
aaa authentication	AAA
username	

aaa accounting update

aaa accounting update
no

aaa accounting update
no aaa accounting update

AAAAAA

Ruijie(config)# **aaa new-model**
Ruijie(config)#

--	--

aaa new-model	AAA
aaa accounting network	

aaa accounting update periodic

periodic	aaa accounting update
	no

aaa accounting update periodic *interval*

no aaa accounting update periodic

<i>interval</i>	1
-----------------	---

5 minutes

AAA

AAA

1

```
Ruijie(config)# aaa new-model
Ruijie(config)# aaa accounting update
Ruijie(config)# aaa accounting update periodic 1
```

aaa new-model	AAA
aaa accounting network	

accounting commands

accounting commands	no
---------------------	----

accounting commands *level* {**default** | *list-name*}

no accounting commands *level*

level 0~15

default

list-name

TACACS+ cmd 15 none
VTY 0 – 4

Ruijie(config)# **aaa accounting commands 15 cmd group tacacs+ none**

Ruijie(config)# **line vty 0 4**

Ruijie(config-line)# **accounting commands 15 cmd**

aaa new-model	AAA
aaa accounting commands	AAA

accounting exec

Exec
accounting exec no Exec

accounting exec {default | *list-name*}

no accounting exec

default

Exec

list-name

Exec

Exec

Exec

Exec

Exec

exec-1

Exec

RADIUS

none

VTY 0 –

4

Ruijie(config)# **aaa accounting exec exec-1 group radius none**

Ruijie(config)# **line vty 0 4**

Ruijie(config-line)# **accounting exec exec-1**

aaa new-model	AAA
aaa accounting commands	AAA Exec

- accounting network
- authentication dot1x
- authorization network
- state
- show aaa domain
- username-format

aaa domain

no

aaa domain {**default** | *domain-name*}

no aaa domain {**default** | *domain-name*}

default

domain-name

AAA

default

domain-name

32

Ruijie(config)# **aaa domain** *ruijie.com*

Ruijie(config-aaa-domain)#

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

aaa domain enable

AAA

AAA

no

aaa domain enable**no aaa domain enable**

AAA

AAA

AAA

Ruijie(config)# **aaa domain enable**

aaa new-model	AAA
show aaa domain	

access-limit

IEEE802.1x

no

access-limit *num***no access-limit**

num

IEEE802.1x

ruijie.com

20

Ruijie(config)# **aaa domain** *ruijie.com*Ruijie(config-aaa-domain)# **access-limit** 20

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

accounting network

Network

no**accountingnetwork** {**default** | *list-name*}**no accounting network****default***list-name*

default

AAA

Network

Network

state

no

state {block | n o a t

domain.com

Ruijie# **show aaa domain domain.com**

=====Domain domain.com=====

State: Active

Username format: Without-domain

Access limit: No limit

802.1X Access statistic: 0

Selected method list:

authentication dot1x default

username-format

NAS

no

username-format {without-domain

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# username-domain
without-domain
```

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

AAA

- **aaa group server**
- **ip vrf forwarding**
- **server**
- **show aaa group**

aaa group server

```
AAA                                no

aaa group server {radius | tacacs+} name
no aaa group server {radius | tacacs+} name

name                               " radius " " tacacs+ "
RADIUS    TACACS+
```

```
AAA                                RADIUS    TACACS+
```

```
Ruijie(config)# aaa group server radius ss
```

Ruijie(config-gs-radius)# **end**

Ruijie# show aaa group

Group Name: ss

Group Type: radius

Referred: 1

Server List:

show aaa group	aaa

aaa group server	aaa
show aaa group	aaa

server

AAA no

server *ip-address* [**auth-port** *port1*] [**acct-port** *port2*]

no server *ip-address* [**auth-port** *port1*] [**acct-port** *port2*]

<i>ip-address</i>	ip
-------------------	----

<i>port1</i>	RADIUS
--------------	--------

<i>port2</i>	RADIUS
--------------	--------

```
Ruijie(config)# aaa group server radius ss
Ruijie(config-gs-radius)# server 192.168.4.12
acct-port 5 auth-port 6
Ruijie(config-gs-radius)# end
Ruijie# show aaa group
Group Name:  ss
Group Type:  radius
Referred:    2
Server List:
IP Address:  192.168.4.12
Authentication Port: 6
Accounting Port: 5
Referred:    1
```




AAA

- **aaa local authentication attempts**
- **aaa local authentication lockout-time**
- **aaa new-model**
- **clear aaa local user lockout**
- **debug aaa**
- **show aaa method-list**
- **show aaa user lockout**

aaa local authentication attempts

login

aaa local authentication attempts

aaa local authentication logout-time

login

aaa local authentication logout-time *logout-time*

logout-time

1~2147483647

15

login

Ruijie# **configure terminal**

Ruijie(config)# **aaa local authentication logout-time**

5

show running-config	
show aaa logout	t

AAA

AAA

AAA
aaa new-model AAA AAA AAA AAA

AAA
Ruijie(config)# **aaa new-model**

aaa authentication	
aaa authorization	
aaa accounting	

show running-config	
show aaa logout	login

debug aaa

AAA

no

debug aaa event

no debug aaa event

EXEC

show aaa method-list

AAA

show aaa method-list

AAA

AAA

Ruijie# **show aaa method-list**

Authentication method-list

aaa authentication login default group radius

```
aaa authentication ppp default group radius
aaa authentication dot1x default group radius
aaa authentication dot1x san-f local group angel group
rain none
aaa authentication enable default group radius
Accounting method-list
aaa accounting network default start-stop group radius
Authorization method-list
aaa authorizing network default group radius
```

aaa authentication	
aaa authorization	
aaa accounting	

show aaa user logout

show aaa user logout {all | user-name <word | G Q , Ø

AAA

show aaa logout	login
------------------------	-------

RADIUS

RADIUS

RADIUS

- **ip radius source-interface**
- **radius-server host**
- **radius-server key**
- **radius-server retransmit**
- **radius-server timeout**
- **radius-server dead-time**
- **radius attribute**
- **radius set qos cos**
- **radius vendor-specific extend**

ip radius source-interface

```
radius
source-interface          no
ip radius source-interface interface
no radius source-interface
```

```
ip radius
RADIUS
```

```
Interface DABRADIUS
```



```

radius                                     radius      fastEthernet 0/0      ip
radius

Ruijie(config)# ip radius source-interface
fastEthernet 0/0

```

radius-server host	RADIUS
ip address	ip

radius-server host

```

RADIUS                                     radius-server
no                                     RADIUS

radius-server host {hostname | ip-address} [auth-port port-number]
[acct-port port-number]
no radius-server host {hostname | ip-address}

hostname: RADIUS                        DNS
ip-address: RADIUS                      IP
auth-port: RADIUS                      UDP
port-number: RADIUS                    UDP      0

acct-port: Radius                      UDP
port-number: RADIUS                    UDP      0

```

RADIUS

```

RADIUS      AAA                        RADIUS
radius-server      RADIUS

```

RADIUS

```
Ruijie(config)# radius-server host 192.168.12.1
```

aaa authentication	AAA
radius-server key	RADIUS
radius-server retransmit	RADIUS
radius-server timeout	RADIUS

radius-server key

RADIUS
radius-server key no

radius-server key *text-string*
no radius-server key

text-string

RADIUS
RADIUS RADIUS

RADIUS aaa
Ruijie(config)# **radius-server key** aaa

--	--

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server timeout	RADIUS

radius-server retransmit

RADIUS

radius-server retransmit

no

radius-server retransmit *retries*

no radius-server retransmit

retries RADIUS

3

AAA

RADIUS

4

Ruijie(config)# radius-server retransmit 4

radius-server host	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

minnutes

1-1000

5

10

Ruijie(config)# radius-server deadtime 10

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

radius attribute

**radius ttribute{<id> | down-rate-limit | dscp | mac-limit |
up-rate-limit} vendor-type <type>****no radius attribute {<id>|down-rate-limit | dscp | mac-limit |
up-rate-limit} vendor-type***id* id <1-255>*type* type

id		type
1	max down-rate	1
2	qos	2

RADIUS

7	user name	7
8	password	8
9	file-directory	9
10	file-count	10
11	file-name-0	11
12	file-name-1	12
13	file-name-2	13
14	file-name-3	14
15	file-name-4	15
16	max up-rate	75
17	version to server	17
18	flux-max-high32	18
19	flux-max-low32	19
20	proxy-avoid	20
21	dailup-avoid	21
22	ip privilege	22
23	login privilege	42
24	limit to user number	50

max up-rate 211

Ruijie(config)# radius attribute 16 vendor-type 211

radius set qos cos	radius qos cos

radius set qos cos

radius qos cos

radius set qos cos

no radius set qos cos

qos dscp

qos cos dscp

Ruijie(config)# **radius set qos cos**

radius vendor-specific extend	Radius id

radius vendor-specific extend

id

radius vendor-specific extend

no radius vendor-specific extend

id

id

Ruijie(config)# **radius vendor-specific extend**

radius attribute	
radius set	qos cos

RADIUS

- **debug radius [event | detail 1 Tf0 Tc 0 Tw 6.554 0 Td-0.0004089Td[<01CF0412>7 1**

radius

```
Ruijie# show radius server
server ip : 192.168.4.12
acct port: 23
authen port: 77
server state: ready
server ip : 192.168.4.13
acct port: 45
authen port: 74
server state: ready
```

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

show radius parameter

RADIUS

show radius parameter

radius

Ruijie# **show radius parameter**

Server Timeout: 5 Seconds

Server Deadtime: 5 Minutes

Server Retries: 3

Server Key: *****

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

show radius vendor-specific

RADIUS

show radius vendor-specific

~

2	qos	77
3	user ip	3
4	vlan id	4
5	version to client	5
6	net ip	6
7	user name	7
8	password	8
9	file-diractory	9
10	file-count	10
11	file-name-0	11
12	file-name-1	12
13	file-name-2	13
14	file-name-3	14
15	file-name-4	15
16	max up-rate	75
17	version to server	17
18	flux-max-high32	18
19	flux-max-low32	19
20	proxy-avoid	20

SSH

SSH

SSH

- **crypto key generate**
- **crypto key zeroize**
- **ip ssh version**
- **ip ssh time-out**
- **ip ssh authentication-retries**
- **transport input**

crypto key generate

crypto key generate {rsa | dsa}

rsa	RSA
dsa	DSA

SSH Server

	SSH Server		SSH	
	enable service ssh-server			SSH Server
SSH 1	RSA	SSH 2	RSA	DSA
	RSA	SSH1	SSH2	
DSA	SSH2			

key zeroize **no crypto key generate** **crypto**

Ruijie# **configure terminal**
Ruijie(config)# **crypto key generate rsa**

show ip ssh	SSH Server
crypto key zeroize {rsa dsa}	DSA RSA SSH Server

RGOS10.1

crypto key zeroize

SSH

crypto key zeroize {rsa | dsa}

rsa	RSA
dsa	DSA

DISABLE SSH Server SSH Server
service ssh-server **no enable**

```
Ruijie(config)# crypto key zeroize rsa
```

show ip ssh	SSH Server
crypto key generate {rsa dsa}	DSA RSA

RGOS10.1

ip ssh version

SSH server

no

ip ssh version {1 | 2}

no ip ssh version

1	SSH Server	SSH1
2	SSH Server	SSH2

	SSH	1	2
SSH			no ip ssh version

SSH Server

SSH Server

SSH 2

SSH

er

SSH

SSH1 SSH2

1 2

show ip ssh

SSH Serv

2

Ruijie# **configure terminal**Ruijie(config)# **ip ssh version 2**

show ip ssh	SSH Server

RGOS10.1

ip ssh time-out

SSH Server

no**ip ssh time-out** *time***no ip ssh time-out**

<i>time</i>	

120s

no ip ssh**time-out**

SSH Server

120s

show ip ssh

SSH server

100s

Ruijie# **configure terminal**Ruijie(config)# **ip ssh time-out 100**

show ip ssh	ssh-server

RGOS10.1

ip ssh authentication-retries

SSH Server

no

ip ssh authentication-retries *retry times***no ip ssh authentication-retries**

<i>retry times</i>	

3

no ip ssh**authentication-retries**

SSH Server

SSH Server
show**ip ssh**

SSH Server

2

Ruijie# **configure terminal**Ruijie(config)# **ip ssh ssh authentication-retries 2**

show ip ssh	SSH Server

RGOS10.1

SSH

SSH

- **show ip ssh**
- **show ssh**
- **show crypto key mypubkey**
- **disconnect ssh**

show ip ssh

SSH Server

show ip sshSSH Server
Server

SSH

SSH

SSH

Ruijie# **show ip ssh**

ip ssh version {1 2}	SSH Server
ip ssh time-out time	SSH Server

Ip ssh authentication-retries retry times	SSH Server
--	------------

RGOS10.1

show ssh

SSH

show ssh

SSH

VTY

SSH

Ruijie# **show ssh**

RGOS10.1

show crypto key mypubkey

SSH Server

show crypto key mypubkey {rsaldsa}

--	--

SSH
VTY SSH SSH

Ruijie# **disconnect ssh 1**

Ruijie# **disconnect ssh vty 1**

show ssh	SSH
Clear line vty <i>line_number</i>	VTY

RGOS10.1

GSN

- security gsn enable
- security community
- snmp-server host
- security event interval

- security address-bind enable

security gsn enable

GSN no

security gsn enable
no security gsn enable

GSN

GSN

```
Ruijie# configure terminal
Ruijie(config)# security gsn enable
```

RGOS10.1

security community

smp

security { [

no smp-server host

ip-address smp server ip

smp server

show smp-server

Ruijie(config)#**smp-server host 192.168.4.243**

Ruijie(config)# **security event interval 10**

show security event interval	

RGOS10.1

security address-bind enable

security address-bind enable

RGOS10.1

:

show smp-server**show security event interval****show smp-server**

smp server IP

smp server IP

Ruijie# **show smp-server**

SMP-Server IP 192.168.20.30

smp-server host	smp server ip

RGOS10.1

show security evnet interval

```
Ruijie# show security event interval
Event sending interval(Seconds):5
```


security event interval *interval*

DAI

VLAN DAI

- ip arp inspection vlan

ip arp inspection vlan vlan-id

no *vlan-id* VLAN DAI
vlan-id VLAN DAI
vlan-id VLAN DAI

ip arp inspection vlan *vlan-id*

no ip arp inspection vlan [*vlan-id*]

<i>vlan-id</i>	vlan

VLAN DAI

DAI

VLAN 1 ARP

Ruijie(config)# **ip arp inspection**

Ruijie(config)# **ip arp inspection vlan 1**

--	--

show ip arp inspection vlan	VLAN	DAI
-----------------------------	------	-----

ip arp inspection trust

ip arp inspection

trust no

ip arp inspection trust

no ip arp inspection trust

ARP

DAI

ARP

gigabitEthernet 0/19

Ruijie(config)# **interface gigabitEthernet 0/19**

Ruijie(config-if)# **ip arp inspection trust**

show ip arp inspection interface	DAI

NFPP()
DAI

NFPP

ARP

- ip arp inspection limit-rate

ip arp inspection limit-rate limit-rate

ARP ip arp
inspection limit-rate no

ip arp inspection limit-rate {*limit-rate* | none }
no ip arp inspection limit-rate

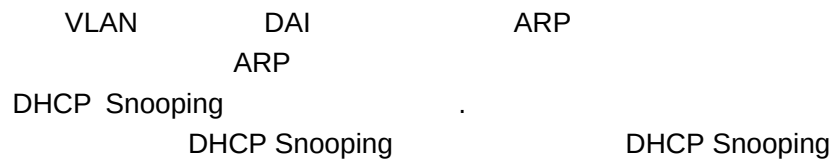
none	
limit-rate	1 2048

15 ARP /
0

DAI
(Network Foundation Protection Policy)

VLAN 2 gigabitEthernet 0/2
10 ARP /
Ruijie(config)# ip arp inspection
Ruijie(config)# interface gigabitEthernet 0/2
Ruijie(config-if)# ip arp inspection limit-rate 10

DHCP Snooping



arp

arp

arp

anti-arp-spoofing ip

anti-arp-spoofing ip

arp

no

anti-arp-spoofing ip *ip-address*

no anti-arp-spoofing ip *ip-address*

Ip-address

IP

show anti-arp-spoofing

Ruijie(config)#**interface fastEthernet** 0/1

Ruijie(config-if)#**anti-arp-spoofing ip** 192.168.1.1

show anti-arp-spoofing	arp

arp

arp

ARP

ACL

id	IP ACL: 1-99,1300-1999 IP ACL: 100-199,2000-2699 MAC ACL: 700-799 ACL: 2700-2899
name	ACL
sn	ACL ()
start-sn	
inc-sn	
deny	
permit	
prot	IPv6 ipv6, icmp, tcp,udp 0-255 IPv4 eigrp, gre, ipinip, igmp, nos, ospf, icmp, udp, tcp, ip IP 0-255 icmp/tcp/udp
interface idx	
src	
src-wildcard	0.255.0.32
src-ipv6-pfix	IPv6
dst-ipv6-pfix	IPv6
pfix-len	
src-ipv6-addr	IPv6
dst-ipv6-addr	IPv6
dscp dscp	, 0-63
flow-label flow-label	0-1048575
dst	
dst-wildcard	0.255.0.32
fragment	
precedence precedence	0-7

time-range tm-rng-name	tm-rng-name
tos tos	0-15
cos cos	cos (0-7)
cos inner cos	tag cos
icmp-type	ICMP 0-255
icmp-code	ICMP 0-255
icmp-message	ICMP
operator port[port]	Operator lt- eq- gt- neq- range- port
src-mac-addr	
dst-mac-addr	
VID vid	vlan id
VID inner vid	tag vid
ethernet-type	0x

match-all tcpf

tcp flag

E	DSAP()	18	S	ip	42
F	SSAP()	19	T	TCP	46
G	Ctrl	20	U	TCP	48
H	Org Code	21	V		50
I		24	W		54
J	IP	26	XY	IP	58
K	TOS				

- **ipv6 traffic-filter**

access-list

no

1) 1 IP 1 - 99 1300 - 1999

access-list id {deny | permit} {source source-wildcard | host source | any}

2) IP 100 - 199 2000 - 2699

access-list id {deny | permit} protocol {source source-wildcard | host source | any} {destination destination-wildcard | host destination | any} [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

3) MAC 700 - 799

access-list id {deny | permit} {any | host source-mac-address} {any | host destination-mac-address} [ethernet-type][cos [out][inner in]]

4) Expert 2700 - 2899

access-list id {deny | permit} [protocol | [ethernet-type][cos [out][inner in]]] [VID [out][inner in]] {source source-wildcard | host source | any} {host source-mac-address | any} {destination destination-wildcard | host destination | any} {host destination-mac-address | any}][precedence precedence] [tos tos] [fragments] [time-range time-range-name]

Ethernet-type cos

access-list id {deny | permit} {ethernet-type| cos [out][inner in]] [VID [out][inner in]] {source source-wildcard | host source | any} {host source-mac-address | any } {destination destination-wildcard | host destination | any} {host destination-mac-address | any} [time-range time-range-name]

Protocol

access-list id {deny | permit} protocol [VID [out][inner in]] {source source-wildcard | host source | any} {host source-mac-address | any } {destination destination-wildcard | host destination | any} {host destination-mac-address | any} [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

Expert

Internet Control Message Protocol (ICMP)

access-list *id* {deny | permit} icmp [VID [out][inner in]] {source source-wildcard | host source | any} {host source-mac-address | any} {destination destination-wildcard | host destination | any} {host destination-mac-address | any} [icmp-type] [[icmp-type [icmp-code]] | [icmp-message]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

Transmission Control Protocol (TCP)

access-list *id* {deny | permit} tcp [VID [out][inner in]] {source source-wildcard | host Source | any} {host source-mac-address | any} [operator port [port]] {destination destination-wildcard | host destination | any} {host destination-mac-address | any} [operator port [port]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name] [match-all tcp-flag]

User Datagram Protocol (UDP)

access-list *id* {deny | permit} udp [VID [out][inner in]] {source source-wildcard | host source | any} {host source-mac-address | any} [operator port [port]] {destination destination-wildcard | host destination | any} {host destination-mac-address | any} [operator port [port]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

5)

access-list *list-remark text*

id 1-99 100-199 1300-1999 2000-2699 È

precedence 0-7

time-range

time-range-name

tos

tos 0-15

icmp-type ICMP 0-255

icmp-code ICMP 0-255

icmp-message ICMP

operator lt- eq- gt- neq- range-

port [*port*] *range*

host *source-mac-address*

- **syn**
- **fin**

- **critical**
- **flash**
- **flash-override**
- **immediate**
- **internet**
- **network**
- **priority**
- **routine**

- **max-reliability**
- **max-throughput**
- **min-delay**
- **min-monetary-cost**
- **normal**

ICMP

- **administratively-prohibited**
- **dod-host-prohibited**
- **dod-net-prohibited**
- **echo**
-
-



- irc
- klogin
- kshell
- login
- nntp
- pim-auto-rp
- pop2
- pop3
- smtp
- sunrpc
- syslog
- tacacs
- talk
- telnet
- time
- uucp
- whois
- www

UDP

UDP

- biff
- bootpc
- bootps
- discard
- dnsix
- domain
- echo
- isakmp
- mobile-ip
- nameserver
- netbios-dgm
- netbios-ns
- netbios-ss
- ntp
- pim-auto-rp
- rip
- snmp
- snmptrap

- sunrpc
- syslog
- tacacs
- talk
- tftp
- time
- who
- xdmcp

Ethernet-type

- aarp
- appletalk
- decnet-iv
- diagnostic
- etype-6000
- etype-8042
- lat
- lavc-sca
- mop-console
- mop-dump
- mumps
- netbios
- vines-echo
- xns-idp

1) IP

IP 192.168.1.64 - 192.168.1.127

```
Ruijie(config)# access-list 1 permit 192.168.1.64  
0.0.0.63
```

2) IP

IP DNS ICMP

```
Ruijie(config)# access-list 102 permit tcp any any eq  
domain
```

```
Ruijie(config)# access-list 102 permit udp any any eq  
domain
```

```
Ruijie(config)# access-list 102 permit icmp any any echo
```

```
Ruijie(config)# access-list 102 permit icmp any any
```

echo-reply

3) MAC

```

MAC 00d0f8000c0c
100 1
Ruijie(config)# access-list 702 deny host 00d0f8000c0c
any aarp
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in

```

4) Expert

```

Expert Extended ACL ACL
IP 192.168.12.3 MAC 00d0.f800.0044
TCP
Ruijie(config)# access-list 2702 deny tcp host
192.168.12.3 mac 00d0.f800.0044 any any
Ruijie(config)# access-list 2702 permit any any any any
Ruijie(config)# show access-lists
expert access-list extended 2702
10 deny tcp host 192.168.12.3 mac 00d0.f800.0044 any
any
10 permit any any any any

```

show access-lists	
mac access-group	MAC

RGOS10.0

ip access-list

```

IP ACL IP ACL
no ACL
ip access-list {extended | standard} {id | name}
no ip access-list {extended | standard} {id | name}

```

```

id IP 1-99 1300-1999 100-199
2000-2699

```

name IP

ACL

ACL
deny permit
access-lists ACL **show ip**

ACL

```
Ruijie(config)# ip access-list extended 123
Ruijie(config-ext-nacl)# show ip access-lists
ip access-list extended 123
Ruijie(config-ext-nacl)#
```

ACL

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# show ip access-lists
ip access-list standard std-acl
Ruijie(config-std-nacl)#
```

show ip access-lists	IP

RGOS10.0

MAC access-list

MAC ACL **no**
ACL

```
mac access-list extended {id | name}
no mac access-list extended {id | name}
```

id MAC 700-799

show ipv6 access-lists

ACL

IPV6

ACL

```
Ruijie# show access-lists
ip access-list standard 1
10 permit host 192.168.4.12
20 deny any any
Ruijie# config
Ruijie(config)# ip access-list resequence 1 21 43
Ruijie(config)# exit
Ruijie# show access-lists
ip access-list standard 1
21 permit host 192.168.4.12
64 deny any any
Ruijie#
```



[sn] deny tcp {source source-wildcard | **host** Source | **any**} [operator port [port]] {destination destination-wildcard | **host** destination | **any**} [operator port [port]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name] [match-all tcp-flag]

User Datagram Protocol (UDP)

[sn] deny udp {source source-wildcard | **host** source | **any**} [operator port [port]] {destination destination-wildcard | **host** destination | **any**} [operator port [port]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

3) MAC

[sn] deny {**any** | **host** source-mac-address}{**any** | **host** destination-mac-address} [ethernet-type][cos [out] [inner in]]

4) Expert

[sn] deny[protocol | [ethernet-type][cos [out] [inner in]]] [[VID [out][inner in]]] {source source-wildcard | **host** source | **any**}{**host** source-mac-address | **any** } {destination destination-wildcard | **host** destination | **any**} {**host** destination-mac-address | **any**} [precedence precedence] [tos tos][fragments] [time-range time-range-name]

ethernet-type cos

[sn] deny {[ethernet-type][cos [out] [inner in]]} [[VID [out][inner in]]] {source source-wildcard | **host** source | **any**} {**host** source-mac-address | **any** } {destination destination-wildcard | **host** destination | **any**} {**host** destination-mac-address | **any**} [time-range time-range-name]

protocol

[sn] deny protocol [[VID [out][inner in]]] {source source-wildcard | **host** source | **any**} {**host** source-mac-address | **any** } {destination destination-wildcard | **host** destination | **any**} {**host** destination-mac-address | **any**} [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

expert

Internet Control Message Protocol (ICMP)

[sn] deny icmp [[VID [out][inner in]]] {source source-wildcard | **host** source | **any**} {**host** source-mac-address | **any**} {destination destination-wildcard | **host** destination | **any**} {**host** destination-mac-address | **any**} [icmp-type] [[icmp-type [icmp-code]] | [icmp-message]] [precedence precedence] [tos tos] [fragments] [time-range time-range-name]

Transmission Control Protocol (TCP)

[sn] **deny tcp** [[VID [out][inner in]]]{source source-wildcard | host Source | **any**} {host source-mac-address | **any**} [operator **port** [port]] {destination destination-wildcard | host destination | **any**} {host destination-mac-address | **any**} [operator **port** [port]] [**precedence precedence**] [**tos tos**] [**fragments**] [**time-range time-range-name**] [**match-all tcp-flag**]

User Datagram Protocol (UDP)

[sn] **deny udp** [[VID [out][inner in]]]{source source -wildcard | host source | **any**} {host source-mac-address | **any**} [operator **port** [port]] {destination destination-wildcard | host destination | **any**} {host destination-mac-address | **any**} [operator **port** [port]] [**precedence precedence**] [**tos tos**] [**fragments**] [**time-range time-range-name**]

5) 5 IPV6

[sn] **deny protocol**{source-ipv6-prefix/prefix-length | **any** | host source-ipv6-address} {destination-ipv6-prefix / prefix-length | **any** | hostdestination-ipv6-address} [**dscp dscp**] [**flow-label flow-label**] [**fragments**] [**time-range time-range-name**]

IPV6

Internet Control Message Protocol (ICMP)

[sn]**deny icmp** {source-ipv6-prefix / prTu Tf8.994 j/TT0 1 Tf0.0022 Tc y

```

source-ipv6-prefix      IPv6
destination-ipv6-prefix IPv6
prefix-length
source-ipv6-address     IPv6
destination-ipv6-address IPv6
dscp
dscp                    0-63.
flow-label
flow-label              0-1048575.
protocol                IPV6          IPV6 | icmp | tcp | udp  <0-255>

```

ACL

ACL

ACL

```

Expert Extended ACL      ACL
IP      192.168.4.12      MAC      001300498272
TCP
Ruijie(config)# expert access-list extended 2702
Ruijie(config-exp-nacl)# deny tcp host
192.168.4.12 host 0013.0049.8272 any any
Ruijie(config-exp-nacl)# permit any any any any
Ruijie(config-exp-nacl)# show access-lists
expert access-list extended 2702
10 deny tcp host 192.168.4.12 host 0013.0049.8272 any
any
20 permit any any any any any
Ruijie(config-exp-nacl)#

```

```

IP      ACL      IP      192.168.4.12
TCP      100      1

```

```

Ruijie(config)# ip access-list extended (Ruijie(conf51 exte520Ei7)

```

```
Ruijie(config-ext-nacl)# exit  
Ruijie(config)# interface gigabitethernet 1/1  
Ruijie(config-if)# ip access-group ip-ext-acl in  
Ruijie(config-if)#
```

MAC	ACL	MAC	0013.0049.8272
	100		

ipv6 traffic-filter	IPV6
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
ipv6 access-list	IPV6 ACL
permit	

RGOS10.0

permit

(permit)

ACL

ACL

1) 1 IP

[sn] **permit** {source source-wildcard | **host** source | **any**}

2) IP

[sn] **permit protocol** source source-wildcard destinationdestination-wildcard [**precedence** precedence] [**tos** tos] [**fragments**][**time-range** time-range-name]

IP

Internet Control Message Protocol (ICMP)[sn] **permit icmp** {source source-wildcard | **host** source | **any**}{destination destination-wildcard | **host** destination | **any**}[icmp-type] [[icmp-type [icmp-code]] | [icmp-message]] [**precedence** precedence] [**tos** tos] [**fragments**] [**time-range** time-range-name]**Transmission Control Protocol (TCP)**[sn] **permit tcp** {source source-wildcard | **host** Source | **any**} [operator**port** [port]] {destination destination-wildcard | **host** destination | **any**}[operator **port** [port]] [**precedence** precedence] [**tos** tos] [**fragments**][**time-range** time-range-name] [**match-all tcp-flag**]

User Datagram Protocol (UDP)

[sn] permit udp

precedence] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]
[**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[*sn*] **permit udp** [**VID** [*out*][*inner in*]][*source source -wildcard* | **host**
source | **any**] {**host** *source-mac-address* | **any** } [*operator port* [*port*]]
{*destination destination-wildcard* | **host** *destination* | **any**} {**host**
destination-mac-address | **any**} [*operator port* [*port*]] [**precedence**
precedence] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

5) IPV6

[*sn*] **permit protocol** {*source-ipv6-prefix / prefix-length* | **any** | **host**
source-ipv6-address} {*destination-ipv6-prefix / prefix-length* | **any**
| *hostdestination-ipv6-address*} [**dscp** *dscp*] [**flow-label**
flow-label] [**fragments**] [**time-range** *time-range-name*]

IPV6

Internet Control Message Protocol (ICMP)

[*sn*] **permit icmp** {*source-ipv6-prefix / prefix-length* | **any**
source-ipv6-address | **host**} {*destination-ipv6-prefix /* **any** | *hostdestination-ipv6-address* | **any**} [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**time-range** *time-range-name*]

ACL

ACL

ACL

Expert Extended ACL

ACL

IP

192.168.4.12

MAC

001300498272

TCP

```
Ruijie(config)# expert access-list extended exp-acl
Ruijie(config-exp-nacl)# permit tcp host
192.168.4.12 host 0013.0049.8272 any any
Ruijie(config-exp-nacl)# deny any any any any
Ruijie(config-exp-nacl)# show access-lists
expert access-list extended exp-acl
10 permit tcp host 192.168.4.12 host 0013.0049.8272 any
any
20 deny any any any any
Ruijie(config-exp-nacl)#
```

IP

ACL

IP

192.168.4.12

TCP

100

1

```
Ruijie(config)# ip access-list extended 102
Ruijie(config-ext-nacl)# permit tcp host 192.168.4.12
eq 100 any
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
10 permit tcp host 192.168.4.12 eq 100 any
Ruijie(config-ext-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group 102 in
Ruijie(config-if)#
```

MAC

ACL

MAC

0013.0049.8272

100

1

```
Ruijie(config)# mac access-list extended 702
Ruijie(config-mac-nacl)# permit host 0013.0049.8272 any
arp
Ruijie(config-mac-nacl)# show access-lists
mac access-list extended
10 permit host 0013.0049.8272 any arp 702
Ruijie(config-mac-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in
```

ip

ACL

IP

192.168.4.12

1

```
Ruijie(config)# ip access-list standard std-acl  
Ruijie(config-std-nacl)# permit host 192.168.4.12
```

list-remark text

ACL no

list-remark *text*

Text

ACL

ACL

```
Ruijie# ip access-list extended 102
Ruijie(config-ext-nacl)# list-remark this acl is to
filter the host 192.168.4.12
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
deny ip host 192.168.4.12 any
1000 hits
this acl is to filter the host 192.168.4.12
Ruijie(config-ext-nacl)#
```

show access-lists	
ip access-list	IP

RGOS10.0

no sn

ACL

no *sn*

sn ACL

ACL

ACL

ACL

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# permit ipv6
host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# 12 deny ipv6 host any any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
12 deny ipv6 any any
Ruijie(config-ipv6-nacl)# no 12
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)#
```

show access-lists	
ip access-list	ip ACL
ipv6 access-list	IPV6 ACL
deny	ACL
permit	ACL

RGOS10.0

ip access-group

ip

access-group no

ip access-group {*id* | *name*} {*in* | *out*}

no ip access-group { *id* | *name*} {*in* | *out*}

id IP

1-199 1300-2699

out

ACL

ACL

show running-config

1 access-list accept_00d0f8xxxxxx_only Gigabit

```
Ruijie(config)# interface GigaEthernet 1/1
Ruijie(config-if)# mac access-group
accept_00d0f8xxxxxx_only in
```

show access-group	ACL

RGOS10.0

expert access-group

EXPERT ACL

no

```
expert access-group {id | name} {in | out}
no expert access-group {id | name} {in | out}
```

id Expert 2700-2899

name Expert

in

out

Expert ACL

ACL

show access-group

1 access-list accept_00d0f8xxxxxx_only Gigabit

Ruijie(config)# **interface GigaEthernet 0/1**

Ruijie(config-if)# expert access-group

accept_00d0f8xxxxxx_only in

show access-group	ACL

RGOS10.0

ipv6 traffic-filter

IPV6 ACL

no

ipv6 traffic-filter *name* {in | out}

no ipv6 traffic-filter *name* {in | out}

name IPV6

in

out

IPV6 ACL

ACL

show access-group

```
access-list v6-acl      Gigabit    1
Ruijie(config)# interface GigaEthernet 0/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show ipv6 traffic-filter	ACL

RGOS10.0

:

- show access-lists
- show ip access-group
- show mac access-group
- show ipv6 traffic-filter
- show expert access-group
- show access-group

show access-lists

```
ACL          ACL
show access-lists [id | name]
```

id
name

```
acl          id  name          ACL
```



```
Ruijie# show access-lists n_acl  
ip access-list standard n_acl  
Ruijie# show access-lists 102  
ip access-list extended 102  
Ruijie# show access-lists  
ip access-list standard n_acl  
ip access-list extended 102  
Ruijie#
```

ip access-list	IP ACL

RGOS10.0

show expert access-group

Expert

show expert access-group [interface <interface>]

<interface>

Expert ACL

Expert ACL

```
Ruijie# show expert access-group interface
gigabitethernet 0/2
expert access-group ee in
Applied On interface GigabitEthernet 0/2.
```

expert access-list	Expert ACL

RGOS10.0

show mac access-group

MAC

show mac access-group[interface <interface>]

<interface>

MAC ACL

MAC ACL

```
Ruijie# show mac access-group interface gigabitethernet
0/3
mac access-group mm in
Applied On interface GigabitEthernet 0/3.
```

mac access-list	MAC ACL

RGOS10.0

show ipv6 traffic-filter

IPV6

show ipv6 traffic-filter [interface <interface>]

<interface>

IPv6 ACL

IPv6

ACL

```
Ruijie# show ipv6 traffic-filter interface
gigabitethernet 0/4
ipv6 access-group v6 in
```

Applied On interface GigabitEthernet 0/4.

ipv6 access-list	IPV6 ACL

RGOS10.0

show access-group

ACL

show access-group [**interface** <interface>]

<interface>

ACL

ACL

```
Ruijie# show access-group
ip access-list standard ipstd3
Applied On interface GigabitEthernet 0/1.
ip access-list standard ipstd4
Applied On interface GigabitEthernet 0/2.
ip access-list extended 101
Applied On interface GigabitEthernet 0/3.
ip access-list extended 102
Applied On interface GigabitEthernet 0/8.
```

ip access-group	ip
mac access-group	MAC
expert access-group	Expert
ipv6 traffic-filter	IPV6

RGOS10.0

:

- **show security** [*interface idx*]
- **security global access-group**
- **security access-group**
- **security uplink enable**

show security

show security [*interface idx*]

interface idx

```
Ruijie# show security
Port      type
-----  -
Global    escape
Gi0/1     escape
Gi0/2     uplink
```

security global access-group	

security access-group	
security uplink enable	

RGOS10.2

security global access-group

security global access-group {*id*|*name*}**no security global access-group***id* ACL id*name* ACLRuijie(config)#**security global access-group 1**

show security	

RGOS10.2

security access-group

security access-group {*id*|*name*}**no security access-group**

id ACL id

name ACL

Ruijie(config-if)#**security access-group 1**

show security	

RGOS10.2

security uplink enable

security uplink enable

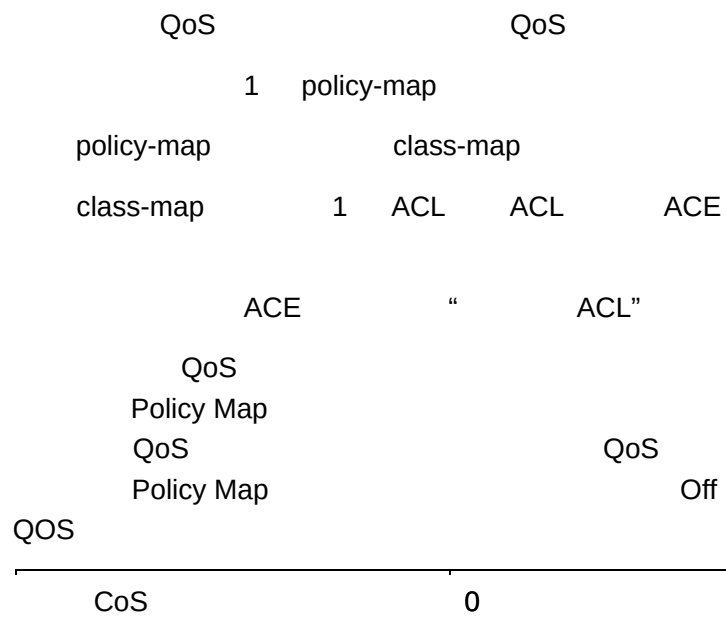
no security uplink enable

Ruijie(config-if)#**security uplink enable**

show security	

RGOS10.2

QoS



IP-Precedence to DSCP

IP-Precedence	0	1	2	3	4	5	6	7
DSCP	0	8	16	24	32	40	48	56

DSCP to CoS

DSCP	0	8	16	24	32	40	48	56
CoS	0	1	2	3	4	5	6	7

mls qos trust

Qos

mls qos trust [**cos** | **dscp** | *ip-precedence*]**no mls qos trust**

cos	Qos	CoS
dscp	Qos	DSCP
<i>ip-precedence</i>	Qos	IP-PRE
no		

```
Ruijie(config)# interface gigabitethernet 1/1  
Ruijie(config-if)# mls qos trust cos
```

```
show mls qos interface interface-id
```


[no] class *class-map-name*

IP ipdscp IP

set ip dscp *new-dscp*

no set ip dscp

police *rate-bps burst-byte*[**exceed-action** {**drop** | **dscp dscp-value**}]

no police

policy-map-name policymap

no policy-map *policy-map-name* policy map

class-map-name class map

no class *class-map-name*

new-dscp DSCP

rate-bps kbps

burst-byte kbyte

drop

dscp-value DSCP

policy map, po

Ruijie(config)# **policy-map po**

class-map cm

Ruijie(config-pmap)# **class cm**

dscp 10

Ruijie(config-pmap-c)# **set ip dscp 10**

1M, 4096k, dscp 16

Ruijie(config-pmap-c)# **police 1000000 4096**

exceed-action dscp 16

show policy-map

service-policy

policy map

service-policy {input | output} *policy-map-name*

no service-policy {input | output}

policy-map-name policymap

no policy map

Ruijie(config)# **interface fastEthernet 0/1**

Ruijie(config-if)# **service-policy input po**

show mls qos interface

priority-queue

[no] **priority-queue**

priority-queue SP

no priority-queue WRR

WRR

no

Ruijie(config)# **wrr-queue cos-map 1 0 1**

show mls qos queueing

mls qos map cos-dscp

CoS	DSCP
-----	------

mls qos map cos-dscp dscp1...dscp8

no mls qos map cos-dscp

dscp

no

Ruijie(config)# **mls qos map cos-dscp 8 10 16 18 24 26 32 34**

show mls qos maps dscp-cos maps,dscp-cos maps
ip-prec-dscp maps

mls qos map dscp-cos

DSCP CoS

mls qos map dscp-cos *dscp-list* to *cos*

no mls qos map dscp-cos

dscp-list

cos 0 7

no

Ruijie(config)# **mls qos map dscp-cos** 8 10 16 18 to 0

show mls qos maps dscp-cos maps,dscp-cos maps
ip-prec-dscp maps

interface rate-limit

rate-limit {input | output} *bps burst-size*

no rate-limit

```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# rate-limit input 1000000 4096
```

```
show mls qos interface
```

mls qos scheduler

```
mls qos scheduler [sp | rr | wrr | drr]
no mls qos scheduler
```

sp

rr

wrr

drr

no

wrr

```
Ruijie(config)# mls qos scheduler sp
```

```
show mls qos scheduler
```

drr-queue bandwidth

DRR

drp-queue bandwidth *weight1...weight8*

no drr-queue bandwidth

weight1...weight8

no

Ruijie(config)# **drp-queue bandwidth 1 2 3 4 5 6 7 8**

show mls qos queueing

86

mls qos map ip-prec-dscp

ippre DSCP

mls qos map ip-prec-dscp dscp1...dscp8

no mls qos map ip-prec-dscp

dscp

no

Ruijie(config)# **mls qo map ip-prec -dscp 8 10 16 18 24
26 32 34**

show mls qos maps dscp-cos maps,dscp-cos maps
ip-prec-dscp maps

wfq-queue bandwidth

wfq

wfq-queue *queue-id* **bandwidth** *min max*

no wfq-queue *queue-id* **bandwidth**

queue-id

min

max

min kbps

max kbps

wfq

wfq

Ruijie(config)# **mls qos scheduler wfq**

Ruijie(config)# **show mls qos scheduler**

Ruijie(config-if)# **wfq-queue 2 bandwidth 10 10240**

Ruijie(config-if)# **wfq-queue 4 bandwidth 7 10240**

Ruijie(config-if)# **show running**

--	--

show mls qos scheduler	QOS
------------------------	-----

RGOS10.1

wfq-queue sp

wfq

RGOS10.1

show mls qos interface

QoS

show mls qos interface *interface-id* [**policers**]

interface-id

policers

police

QoS

Ruijie# **show mls qos interface fastEthernet 0/1**

show mls qos queueing

QoS

(cos-to-queue map, wrr weight, drr weight)

show mls qos queueing

Ruijie# **show mls qos queueing**

show mls qos scheduler

show mls qos scheduler

Ruijie# **show mls qos scheduler**

show mls qos maps

dscp-cos maps, dscp-cos maps ip-prec-dscp maps

show mls qos maps [cos-dscp | dscp-cos | ip-prec-dscp]

cos-dscp cos-dscp maps

dscp-cos dscp-cos maps

ip-prec-dscp ip-prec-dscp maps

dscp-cos maps dscp-cos maps ip-prec-dscp maps

Ruijie# **show mls qos maps**

show mls qos rate-limit

show mls qos rate-limit [interface *interface-id*]

interface interface-id rate-limit

Ruijie# **show mls qos rate-limit**

RLDP

RLDP

- **rldp enable**
- **rldp detect-interval**
- **rldp detect-max**

- **rldp port {unidirection-detect | bidirection-detect | loop-detect}
{warning | shutdown-svi | shutdown-port | block}**

- **rldp reset**

rldp enable

RLDP

rldp enable
no rldp enable

RLDP

RLDP

:

```
Ruijie(config)# rldp enable
```

no rldp detect-max

num , 2-10

2

5 :

Ruijie(config)# **rldp detect-max 5**

rldp detect-interval	

rldp port

rldp

**rldp port {unidirection-detect | bidirection-detect | loop-detect }
{warning | shutdown-svi | shutdown-port | block}**

no rldp port { unidirection-detect | bidirection-detect | loop-detect }

unidirection-detect

bidirection-detect

loop-detect

warning

shutdown-svi shutdown svi

shutdown-port shutdown

block

- **show rldp** [interface *interface-id*]
- **debug rldp** {packet | event | error}

show rldp

rldp

show rldp [interface *interface-id*]

Interface-id

EXEC

debug rldp

rldp

no

- **debug rldp** [packet | event | error]
- **undebug rldp** [packet | event | error]

packet rldp

event

error

EXEC

TPP

topology guard

```

topology guard
no
[no] topology guard

```

cpu topology-limit

```

Ruijie(config)# topology guard
Ruijie(config)# no topology guard

```

tp-guard port enable

```

cpu topology-limit CPU

```

tp-guard port enable

```
no
```

[no] tp-guard port enable

CPU

(AP)

Ruijie(config-if)# **tp-guard port enable**

Ruijie(config-if)# **no tp-guard port enable**

topology guard

TPP

show tpp

show tpp

tpp

Ruijie# **show tpp**

topology guard

-
- cat
 - cd
 - cp
 - ls
 - makefs
 - mkdir
 - mv
 - pwd
 - rm
 - rmdir

cd

cd *DIRECTORY*

DIRECTORY

“ ”
..

“ ”
.

ls

tmp

Ruijie# **cd tmp**



ls

Is

Is *PATHNAME*

PATHNAME

a

b

jffs2

dev/mtdblock/1

Ruijie# **makefs dev /dev/mtdblock/1 fs jffs2**

mkdir

mkdir *DIRECTORY*

DIRECTORY

()

test

Ruijie# **mkdir test**

mv

```
mv sour SOURCE_FILE dest {DESTINE_FILE | DIRECTORY}
```

```
mv dest {DESTINE_FILE | DIRECTORY} sour SOURCE_FILE
```

SOURCE_FILE

DESTINE_FILE/DIRECTORY

```

a ( type file); b '?'
'?' '
,
log.txt , config.txt,
,
Ruijie# mv sour tmp/log.txt dest ../config.txt
log.txt tmp
Ruijie# mv dest /mnt/tmp sour tmp/log.txt
```

pwd

pwd

pwd	

Ruijie# pwd

rm

rm *FILE*

FILE ()

,

log.txt

Ruijie# **rm** *log.txt*

rmdir	, rm ,

rmdir

rmdir *DIRECTORY*

DIRECTORY ,

rm , ,

tmp

Ruijie# **rmdir** tmp
Ruijie# **ls**

logging on

no

logging on

no logging on

RGOS

Console

VTY

logging console	
logging monitor	VTY (telnet)
logging trap	Syslog Server

terminal monitor

VTY VTY
no

terminal monitor

terminal no monitor

VTY VTY

VTY

logging buffered [*buffer-size* | *level*]

no logging buffered

buffer-size 4K 128K Bytes

level 0 7

4k Bytes

7

show logging

clear logging

FLASH

Syslog Server

RGOS

8

1

Emergencies	0	
Alerts	1	
Critical	2	
Errors	3	
warnings	4	
Notifications	5	
informational	6	
Debugging	7	

0

6 6 10000

Ruijie(config)# **logging buffered 10000 6**

logging on	
show logging	
clear logging	

logging

Syslog Sever

Syslog server **Syslog Server**

no

logging *host*

no logging *host*

Host syslog server

Syslog server

Syslog server RGOS

5 Syslog Server Syslog Server

202.101.11.1 syslog server

Ruijie(config)# **logging 202.101.11.1**

logging on	
show logging	
logging trap	syslog server

logging file flash

FLASH

FLASH no

logging file flash:filename [max-file-size] [level]

no logging file

Filename txt

max-file-size 128K 6M bytes

128K

level

FLASH 6

1

FLASH

Syslog Server

FLASH

txt

FLASH FLASH

FLASH logging file flash

64K, FLASH trace.txt
6
Ruijie(config)# **logging file flash:trace**

logging on	
show logging	
more flash	FLASH

logging console

no
logging console *level*
no logging console

level 0 7 1

Debugging (7)

logging on	
show logging	

logging monitor

VTY telnet SSH no VTY

logging monitor *level*
no logging monitor

level 1

Debugging (7)

VTY terminal
monitor VTY
logging monitor
Logging monitor VTY

VTY 6
Ruijie(config)# **logging monitor informational**

logging on	
show logging	

logging trap

Syslog Server
no Syslog Server

logging trap level

no logging trap

level

1

Informational(6)

Syslog Server Syslog Server logging

Syslog Server logging trap

show logging

6 202.101.11.22

Syslog Server

Ruijie(config)# **logging 202.101.11.22**

Ruijie(config)# **logging trap informational**

logging on	
logging	Syslog Server
show logging	

logging source interface

no logging type interface number

Syslog Server

Loopback 0

Syslog

Ruijie(config)# **logging source ip 192.168.1.1**

logging	Syslog server

logging facility

no (23)

logging facility *facility-type*

no logging facility

facility-type Syslog

Local7(23)

2 Syslog

2

Numerical Code	Facility
0	kernel messages

1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslogd
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon

logging console	

logging count

no

logging count

no logging count

no logging

count

Ruijie(config)# **logging count**

show logging count	
show logging	

service sequence-numbers

no

service sequence-numbers

logging on	
service timestamps	

<i>message-type</i>	Log	Debug	Log
0 6	Debug		7

Mar 22 15:28:02 %SYS-5-CONFIG: Configured from console
by console

Ruijie# **config terminal**

Enter configuration commands, one per line. End with
CNTL/Z.

Ruijie(config)# **service sysname**

Ruijie(config)# **end**

Ruijie#

Mar 22 15:35:57 S3250 %SYS-5-CONFIG: Configured from
console by console



logging file flash:	FLASH

clear logging

clear logging

Ruijie# clear logging

logging on	
show logging	
logging buffered	

show logging

show logging

show logging

```
Ruijie# show logging
Syslog logging: enabled
Console logging: level debugging, 4 messages logged
Monitor logging: level informational, 0 messages logged
Buffer logging: level debugging, 6 messages logged
Timestamp debug messages: datetime
Timestamp log messages: disabled
Sequence log messages: enable
Trap logging: level debugging, 2 message lines logged, 0
reserved, 0 fail
logging to 202.101.11.22
logging to 192.168.200.112
Log Buffer (Total 4096 Bytes) : have written 680
00001 2004-11-17 10:20:59 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/0, changed state to up
00002 2004-11-17 10:20:59 Ruijie: %7:%LINE PROTOCOL
CHANGE: Interface FastEthernet 0/0, changed state to UP
00003 2004-11-17 10:57:18 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to
administratively down
00004 2004-11-17 10:57:21 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to down
00005 2004-11-17 10:57:41 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to
administratively down
00006 2004-11-17 10:57:43 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to down
```

Syslog logging	disabled enabled,
Console logging	
Monitor logging	VTY

Buffer logging	
Timestamp debug messages	Debug
Timestamp log messages	Log
Sequence log messages	
Trap logging	Syslog Server
Log Buffer	

logging on	
clear logging	

show logging count

show logging count

count show logging count logging

show logging

show logging count

```
Ruijie# show logging count
Module Name  Message Name Sev Occur      Last Time
=====
SYS          CONFIG_I      5    1      Jul 6 10:29:57
```

SYS TOTAL

1

logging count	
show logging	
clear logging	

POE

POE

- **Poe enable/no poe enable**
- **Poe-power lower lower/no poe-power lower**
- **Poe-power upper upper/no poe-power upper**
- **Poe disconnect-mode mode/no poe disconnect-mode**

Poe enable/no poe enable

/

```
Ruijie(config-if)#  
Ruijie(config-if)# poe enable  
Ruijie(config-if)# no poe enable  
Ruijie(config-if)#
```

Poe-power lower lower/no poe-power lower

lower

[45000-47000]

POE

46

```
Ruijie#  
Ruijie# configure  
Ruijie(config)# poe-power lower 46  
Ruijie(config)# end  
Ruijie#  
Ruijie#
```

Poe-power upper lower/no poe-power upper

upper

[55-57]

POE

56

```
Ruijie#  
Ruijie# configure  
Ruijie(config)# poe-power upper 56  
Ruijie(config)# end  
Ruijie#  
Ruijie#
```

Poe disconnect-mode mode/no poe disconnect-mode

mode

[ac/dc]

Ruijie# **show poe interface gigabitethernet 0/2**

-
- **device-priority**
 - **device-description**
 - **stack on**
 - **show member**

device-priority

device-priority [*member*] *priority*

<i>member</i>	ID member 1
<i>priority</i>	[1, 10]

10110

1

write

28

Ruijie(config)# **device-priority 2 8**

--	--

show member	
-------------	--

device-description

device-description [*member member*] *description*

member member	ID member 1
<i>description</i>	31

write

2 red-giant
Ruijie(config)# **device-description member 2 red-giant**

show member	

stack on

(no) **stack on**

no

S3750

GigabitEthernet 0/28

```
Ruijie(config)# interface GigabitEthernet 0/28
Ruijie(config-if)# stack on
```

show member

show member [*member*]

<i>member</i>	ID

```
Ruijie# show member
Member Mac Address      Priority Software Version
HardwareVersion Description
-----
1      00d0.f810.3323  1      RGOS 10.1.00(2),
Release(12889) 1.0      SWITCH
2      00d0.f822.33aa  1      RGOS 10.1.00(2),
Release(12889) 1.0      SWITCH
3      00d0.f822.33ae  1      RGOS 10.1.00(2),
Release(12889) 1.0      SWITCH
```

4	00d0.f822.33b0	1	RGOS 10.1.00(2),
	Release(12889) 1.0		SWITCH
5	00d0.f822.33b2	1	RGOS 10.1.00(2),
	Release(12889) 1.0		SWITCH
6	00d0.f824.23b4	1	RGOS 10.1.00(2),
	Release(12889) 1.0		SWITCH
7	00d0.f833.44b4	1	RGOS 10.1.00(2),
	Release(12889) 1.0		SWITCH
8	00d0.f855.33ae	1	RGOS 10.1.00(2),
	Release(12889) 1.0		SWITCH